

High Water Marks Halloween Storm October, 1991

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October 1992



US Army Corps
of Engineers
New England Division

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13. ABSTRACT (Maximum 200 words) This report documents the location and elevation of approximately 200 high water marks taken after the Halloween "Northeaster" of October 1991 and the high water marks were taken from the coast of Kennebunkport, Maine down to Nantucket, Massachusetts. The report contains photographs, descriptions, and location maps for all of the high water marks which were recovered. The maps show the locations of both the Halloween Storm of 1991 and the Blizzard of 1978 high water marks. High water marks and their corresponding elevations, referenced to either the National Geodetic Vertical Datum (NGVD), or Mean Lower Low Water (MLLW) are listed in Table 1 - <u>Summary of High Water Marks</u> . The high water marks are meant to be an estimation of stillwater elevation; however, some are due to ponding, overtopping, and wave runup which are not representative of ocean stillwater levels.				
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HIGH WATER MARKS OF THE HALLOWEEN COASTAL STORM OCTOBER, 1991

1. Introduction

This report documents the location and elevation of approximately 200 high water marks obtained after the Halloween northeaster of October 1991. High water marks were obtained at various locations along the coast from Kennebunkport, Maine to Nantucket, Massachusetts.

The Halloween Storm was an extratropical event which originally developed east of Nova Scotia and strengthened as it moved westward. The storm was extremely intense, causing flooding, erosion and damage along most of the New England coast. The affects of this storm were observed from regions of Canada to the Atlantic facing shorelines of the Greater Antilles (Cuba, Haiti, Dominican Republic, etc.). The east facing shores of Maine, New Hampshire, and Massachusetts are particularly vulnerable to storms of this nature. Sustained winds from the northeast can produce extreme wave conditions and storm surges, as was observed during both the Halloween Storm of 1991 and the Blizzard of 1978.

The high water marks are meant to be an approximation of stillwater elevations, however, some are due to overtopping, wave runup, and ponding which are not representative of ocean stillwater levels. These are of interest to affected coastal communities, States, and other Federal agencies responsible for defining flood threats and evaluating mitigation measures. Information contained in this report provides historical documentation of the coastal flooding experienced along the New England coast from this event. High water marks and their corresponding elevations, referenced to either the National Geodetic Vertical Datum (NGVD), or Mean Lower Low Water (MLLW) are listed in Table 1 - Summary of High Water Marks. Only the elevations of the most reliable marks are presented in Table 1, however, this report contains photographs, descriptions, and location maps for all of the high water marks which were recovered (Appendix). Those marks not considered reliable estimates of the stillwater level are still an important historical reference of flooding caused by the Halloween event. The elevations and locations of the more reliable high water marks are plotted on the Tidal Flood Profiles - New England Coastline, September 1988 for illustrative purposes only.

Location maps for both the Halloween Storm of 1991 and the Blizzard of 1978 were developed from the United States Geological Survey 7.5 Minute Series Quadrangles. The October 1991 high water marks are represented by squares, and the Blizzard of 1978 marks by circles. The intent of these maps is to use them on a recurring basis for obtaining high water marks from future storm events which can be easily referenced to the 1978 and 1991 marks.

2. Authority

The identification and marking of High Water Marks was coordinated through New England Division's Emergency Operations Branch and accomplished under the Flood Control and Coastal Emergency Act (PL 84-99). The survey effort and the preparation of this report has been

conducted under the Corps of Engineers' Flood Plain Management Services (FPMS) program. The FPMS program is authorized under Section 206 of the Flood Control Act of 1960 (PL 86-645).

3. Data Collection

On November 2-6, 1991, the New England Division mobilized seven 2-person teams to mark and record the locations of identifiable stillwater elevations. Where possible, elevations were identified by debris lines that remained on inland areas or inside structures to avoid areas subjected to wave action. Local residents and public officials were often consulted at many locations for additional assistance in distinguishing high water marks.

Locations were marked with paint, stakes, tape and nails with pertinent information recorded on NED Standard Forms for High Water Mark Data collection. Photographs and sketches of the site were used to aid survey personnel in relocating the marks to determine the elevations. New England Division survey teams were deployed in December, 1991 to measure the high water mark elevations relative to the level of the ocean surface at the time of survey. The survey data was then adjusted using the predicted and actual tide elevations for the date of survey. This allowed the high water mark elevations to be converted to the National Geodetic Vertical Datum (NGVD). The datum used for Nantucket was Mean Lower Low Water (MLLW). A sample calculation of this method follows Table 1.

The final elevations of the high water marks determined as a result of the survey are meant only as a general guide as to the severity of flooding at a particular location. There is a wide range of values associated with the data points representing the highwater mark elevations on the Tidal Flood Profiles. Numerous errors can be introduced when determining the high water mark elevations as a result of coastal storm events. Human error in locating the approximate level of stillwater in areas subjected to wave action is a predominant source of error. The location and elevation of high water marks is in many cases a subjective matter. Another possible source of error is the methodology used in determining the highwater mark elevations. The elevations were based on the approximate stillwater level of the ocean on the particular day the survey was accomplished, but this can be affected by wave action and weather conditions which may lead to errors.

4. Summary

The elevations of high water marks presented in this report were derived from actual observed tide elevations for the appropriate National Oceanic and Atmospheric Administration (NOAA) Station at the time and day of the survey. These marks are best used to indicate high water elevations over a region rather than at a specific site. The elevation of individual marks may not be accurate representations at a particular site. Trends in stillwater levels occurring in a particular region may exist when these marks are evaluated as a group rather than

individually. Only those marks obtained from other storm events taken at locations in the proximity of the Halloween 1991 high water marks can be reasonably compared on an individual basis. The maps contained in this report show the locations of both the Halloween Storm of 1991 and Blizzard of 1978 high water marks. A complete description of the high water mark locations from the Blizzard of 1978 is contained in "Coastal Flood of February 7, 1978 In Maine, Massachusetts, and New Hampshire" prepared by the U.S. Geological Survey.

The raw data of high water marks was reviewed for accuracy based on the observations of personnel in the field. Therefore, only those elevations found to be reasonably accurate are displayed in Table 1 and on the Tidal Flood Profiles - New England Coastline, September 1988. All elevations are displayed in NGVD except for Nantucket which is referenced to MLLW. However, all of the high water mark descriptions and locations were retained in this report for future historical reference. All of the high water marks provide a database of information for referencing the effects of future storm events.

5. Acknowledgments

This report was developed and prepared by John Kedzierski, P.E., with assistance provided by Michael Tarnowski, Duban Montoya, and Christine Davey. The high water mark data collection was conducted through the Operations Directorate, Emergency Operations Branch. Field surveying was completed by Carl Beattie, Joseph Cavanaugh, Fred Perry, and Scott Whitcomb. The report was prepared under the supervision and management of the following New England Division personnel:

Colonel Brink P. Miller, Division Engineer
Joseph L. Ignazio, Director of Planning
John C. Craig, Chief, Basin Management Division
John R. Kennelly, Chief, Long Range Planning Branch

The high water mark location and elevation data was collected by the following New England Division personnel: Scott Acone, Mark Deschenes, Greg Hanlon, Christopher Hatfield, Victor Hom, David Larsen, Wendell Mah, Robert Martin, Duban Montoya, Robert Russo, Karen Schofield, and John Yen.

TABLE 1 - SUMMARY OF HIGH WATER MARKS

SITE NO.	STATE/ TOWN	HIGH WATER MARKS ELEVATION (NGVD)
	MAINE	
E1	ELIOT	8.1
K1	KITTERY	—
K2	KITTERY	9.1
K3	KITTERY	9.2
K4	KITTERY	—
K5	KITTERY	9.4
S1	SEABURY	—
Y1	YORK HARBOR	—
Y2	YORK HARBOR	—
CN1	CAPE NEDDICK	—
CN2	CAPE NEDDICK	10.8
CN3	CAPE NEDDICK	—
O1	OGUNQUIT	—
W1	WELLS	—
W2	WELLS	—
W3	WELLS	9.2
W4	WELLS	—
W5	WELLS	—
W6	WELLS	—
KB1	KENNEBUNK	11.3
KB2	KENNEBUNK	—
KB3	KENNEBUNK	10.8
KP1	KENNEBUNKPORT	—
KP2	KENNEBUNKPORT	9.5
KP3	KENNEBUNKPORT	9.8
KP4	KENNEBUNKPORT	11.9
KP5	KENNEBUNKPORT	10.2
KP6	KENNEBUNKPORT	7.9
KP7	KENNEBUNKPORT	11.0
	NEW HAMPSHIRE	
SB1	SEABROOK	—
SB2	SEABROOK	10.2

TABLE 1 - continued

SITE NO.	STATE/ TOWN	HIGH WATER MARKS ELEVATION (NGVD)
	MASSACHUSETTS	
S1	SALISBURY	8.7
S2	SALISBURY	9.9
S3	SALISBURY	6.8
N1	NEWBURYPORT	10.4
N2	NEWBURYPORT	10.8
N3	NEWBURYPORT	—
N4	NEWBURYPORT	8.1
N5	NEWBURYPORT	—
N6	NEWBURYPORT	9.4
N7	NEWBURYPORT	—
N8	NEWBURYPORT	8.3
N9	NEWBURY	9.5
N10	NEWBURY	—
RY1	ROWLEY	—
RY2	ROWLEY	9.9
I1	IPSWICH	—
I2	IPSWICH	11.3
I3	IPSWICH	9.9
I4	IPSWICH	—
I5	IPSWICH	10.4
I6	IPSWICH	11.1
E1	ESSEX	11.4
E2	ESSEX	11.7
E3	ESSEX	9.6
G1	GLOUCESTER	—
G2	GLOUCESTER	11.4
G3	GLOUCESTER	11.2
G4	GLOUCESTER	10.9
G5	GLOUCESTER	10.6
G6	GLOUCESTER	—
G7	GLOUCESTER	11.7
G8	GLOUCESTER	9.9
G9	GLOUCESTER	—
G10	GLOUCESTER	8.6
G11	GLOUCESTER	7.2
R1	ROCKPORT	10.5
R2	ROCKPORT	9.9
R3	ROCKPORT	9.0
MN1	MANCHESTER	—
MN2	MANCHESTER	—
MN3	MANCHESTER	10.2
MN4	MANCHESTER	—
BV1	BEVERLY	—
BV2	BEVERLY	—
DN1	DANVERS	8.5
DN2	DANVERS	8.6
SL1	SALEM	8.8

TABLE 1 - continued

SITE NO.	STATE/ TOWN	HIGH WATER MARKS ELEVATION (NGVD)
	MASSACHUSETTS	
SL2	SALEM	11.2
SL3	SALEM	11.2
MB1	MARBLEHEAD	12.7
MB2	MARBLEHEAD	—
MB3	MARBLEHEAD	11.4
SW1	SWAMPSCOTT	11.1
SW2	SWAMPSCOTT	10.8
SW3	SWAMPSCOTT	—
SW4	SWAMPSCOTT	11.8
SW5	SWAMPSCOTT	12.9
L1	LYNN	8.9
L2	LYNN	9.0
L3	LYNN	—
L4	LYNN	—
L5	LYNN	—
L6	LYNN	—
L7	LYNN	8.4
L8	LYNN	8.4
L9	LYNN	—
NH1	NAHANT	—
SG1	SAUGUS	—
SG2	SAUGUS	—
SG3	SAUGUS	—
RV1	REVERE	10.1
RV2	REVERE	—
RV3	REVERE	9.4
RV4	REVERE	—
RV5	REVERE	10.2
RV6	REVERE	—
RV7	REVERE	—
RV8	REVERE	9.2
RV9	REVERE	8.4
RV10	REVERE	8.4
RV11	REVERE	8.3
RV12	REVERE	—
RV13	REVERE	9.6
RV14	REVERE	7.8
RV15	REVERE	7.4
RV16	REVERE	8.3
RV17	REVERE	—
RV18	REVERE	—
RV19	REVERE	—
RV20	REVERE	—
RV21	REVERE	—
W1	WINTHROP	—
W2	WINTHROP	10.1

TABLE 1 - continued

SITE NO.	STATE/ TOWN	HIGH WATER MARKS ELEVATION (NGVD)
	MASSACHUSETTS	
H1	HULL	12.9
H2	HULL	---
H3	HULL	---
H4	HULL	10.4
H5	HULL	---
C1	COHASSET	---
C2	COHASSET	---
C3	COHASSET	9.5
S1	SCITUATE	9.6
S2	SCITUATE	11.9
S3	SCITUATE	14.4
S4	SCITUATE	---
S5	SCITUATE	13.3
S6	SCITUATE	---
S7	SCITUATE	---
S8	SCITUATE	---
M1	MARSHFIELD	12.6
M2	MARSHFIELD	---
M3	MARSHFIELD	---
M4	MARSHFIELD	---
D1	DUXBURY	---
D2	DUXBURY	12.7
D3	DUXBURY	11.4
D4	DUXBURY	11.1
D5	DUXBURY	---
K1	KINGSTON	---
P1	PLYMOUTH	---
P2	PLYMOUTH	11.8
P3	PLYMOUTH	11.9
P4	PLYMOUTH	---
P5	PLYMOUTH	---
P6	PLYMOUTH	12.8
P7	PLYMOUTH	---
P8	PLYMOUTH	---
P9	PLYMOUTH	---
SA1	SANDWICH	11.4
CH1	CHATHAM	---
CH2	CHATHAM	4.1
CH3	CHATHAM	3.0
CH4	CHATHAM	7.5
CH5	CHATHAM	---
OR1	ORLEANS	12.4
OR2	ORLEANS	---
OR3	ORLEANS	---
OR4	ORLEANS	9.5
E1	EASTHAM	10.6

TABLE 1 - continued

SITE NO.	STATE/ TOWN	HIGH WATER MARKS ELEVATION (NGVD)
	MASSACHUSETTS	
E2	EASTHAM	—
E3	EASTHAM	10.8
T1	TRURO	7.6
PR1	PROVINCETOWN	12.8

TABLE 1 - continued

SITE NO.	STATE/ TOWN	HIGH WATER MARKS ELEVATION (MLLW)
	MASSACHUSETTS	
1	MADAKET, NANT.	7.1
2	MADAKET, NANT.	8.3
3	MADAKET, NANT.	—
4	NANTUCKET	9.5
5	NANTUCKET	8.6
6	NANTUCKET	8.5
7	NANTUCKET	8.4
8	NANTUCKET	8.2
9	NANTUCKET	7.9
10	NANTUCKET	—
11	NANTUCKET	8.3
12	NANTUCKET	8.4
13	NANTUCKET	—
14	NANTUCKET	7.9
15	NANTUCKET	9.8
16	NANTUCKET	9.3
17	WAUWINET, NANT.	7.3
18	SHAWKEMO, NANT.	8.3
19	SQUAM, NANT.	—
20	QUIDNET, NANT.	—
21	SIASCONSET, NA.	—

Note: Those points whose elevations have not been recorded were not accurate representations of the stillwater elevation at that location.

EXAMPLE DETERMINATION OF HIGH WATER MARK ELEVATION

For Site L1, Lynn, Massachusetts:

Step 1. After the high water level had been marked, a survey crew determined the elevation of the mark relative to the ocean surface for the date and time of their survey: Survey Date 12/2/91; Survey Time 3:32 PM (1532)

The survey recorded the water surface measured 18.25 feet and the high water mark 5.2 feet relative to the survey instrument. See Figure 1.

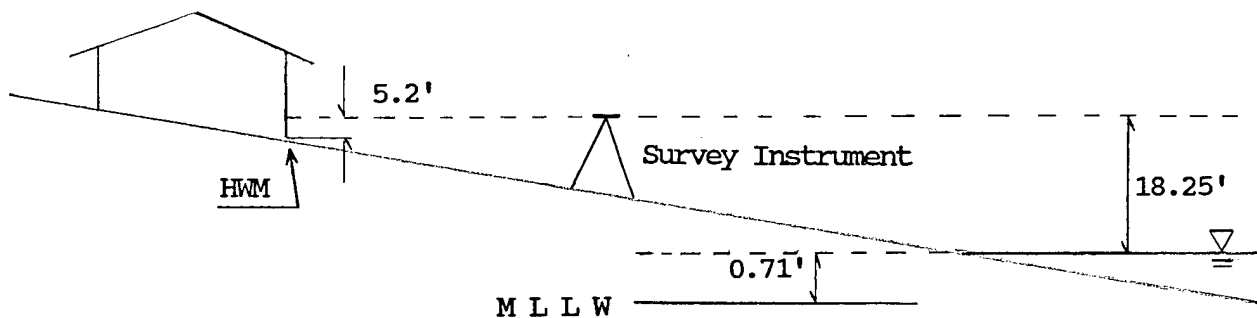


FIGURE 1

Step 2. High and Low tide times and elevations were obtained from National Oceanic and Atmospheric Administration, National Ocean Service (NOAA/NOS) tide gage stations at Portland, Boston, and Nantucket. The high and low tide times and elevations were then determined for the Sub-Station nearest the high water mark using appropriate difference factors contained in "Tide Tables 1992 - East Coast of North and South America, Including Greenland, (NOAA)". The tide characteristics at the high water mark locations were assumed to be the same as at the nearest Sub-Station.

Tidal difference factors for Lynn Harbor are:

Time (min)		Height (ft)	
<u>High Water</u>	<u>Low Water</u>	<u>High Water</u>	<u>Low Water</u>
+10	+06	*0.96	*.096

Step 3. Apply the difference factors to the Boston tide data to estimate tidal information for Lynn on December 2, 1991:

High		Low	
Time (min)	Height (ft)	Time (min)	Height (ft)
1228	9.187	858	-0.182

- Step 4. Determine the linear time fraction of the tidal cycle to the time of survey:

The time of survey is 1532 (932 minutes). The time of survey must fall between the time of high and low tides.

$$\begin{aligned}\text{High Tide Time} - \text{Low Tide Time} &= 1228 - 858 = 370 \\ (\text{Survey Time} - \text{Low Tide Time}) / 370 &= .200\end{aligned}$$

$$\text{Time Fraction} = .200$$

- Step 5. Determine the fractional change in tide height at the time of survey. Assume that variations in tide heights between low and high tides follows a sinusoidal relationship:

Use $[1 - \cos(\text{PI} \times \text{Time Fraction})] \times 0.5$

Note: The Linear Time Fraction should be in radians.

$$[1 - \cos(\text{PI} \times .200 \text{ radians})] \times 0.5 = 0.096$$

$$\text{Height Fraction} = 0.096$$

- Step 6. Determine the height of water at time of survey relative to MLLW.

$$\begin{aligned}\text{Ht.} &= \text{Low Tide} + [\text{Sinusoidal Height Fraction} \times (\text{HT} - \text{LT heights})] \\ -.1824 &+ [0.096 \times (9.187 - (-.1824))] = .71 \quad \begin{array}{l} \text{Height of water} \\ \text{surface (MLLW)} \end{array}\end{aligned}$$

- Step 7. Convert high water mark elevation to NGVD:
Refer to Figure 1.

Height of water mark (MLLW) at time of survey:
 $.71 + 18.25 - 5.20 = 13.76 \text{ MLLW}$

Convert to NGVD:

$$13.76 \text{ MLLW} - 0.34 (\text{MLLW to MLW}) - 4.5 (\text{MLW to NGVD}) = \underline{8.92 \text{ NGVD}}$$

Note: MLLW: Mean Lower Low Water
 MLW: Mean Low Water
 NGVD: National Geodetic Vertical Datum

HIGH WATER MARK

LOCATION MAPS

The following maps show the location of High Water Marks obtained from the Blizzard of 1978 and the Halloween Storm of 1991. The locations are represented on USGS 7.5 Minute Series (Topographic) Quadrangles, produced by the U.S. Department of Interior, Geological Survey.



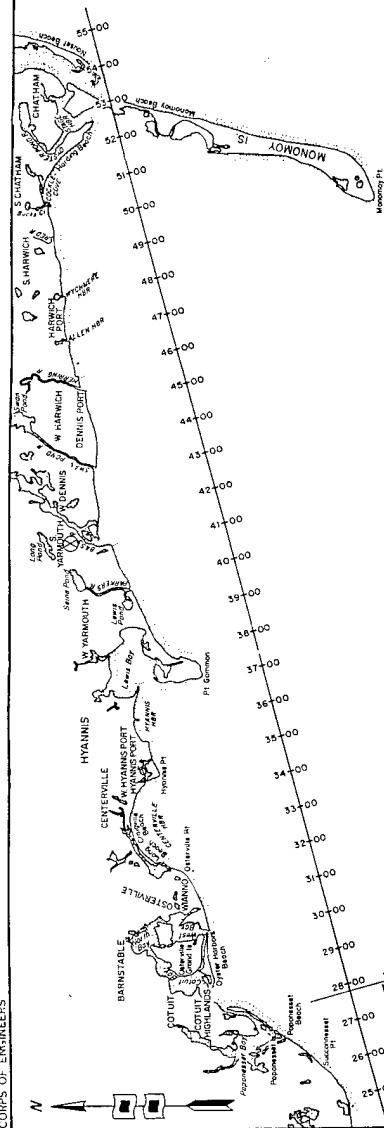
- Blizzard of 1978



- Halloween Storm of 1991

The elevations and a detailed description of the High Water Marks from the Blizzard of 1978 are contained in the following publication on file at the U.S. Army Corps of Engineers, New England Division, Waltham, Massachusetts:

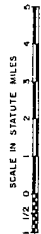
Coastal Flood of February 7, 1978 In Maine, Massachusetts, and New Hampshire - U.S. Geological Survey, Water Resources Investigation 79-61

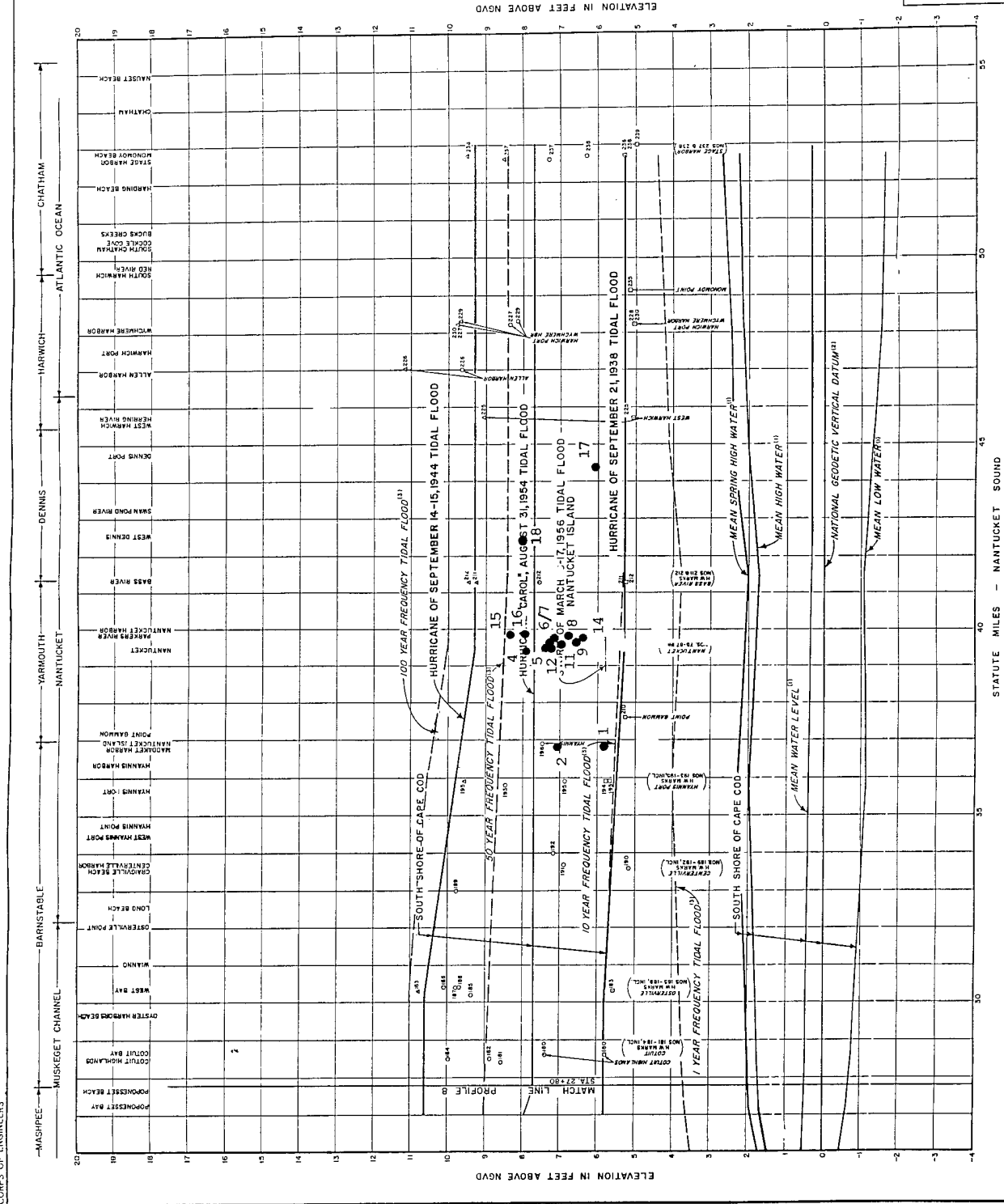


LEGEND:
 (Symbol) NEED GAGE

NOTE:
 Stationing is in Statute Miles.

NEW ENGLAND COASTLINE
 TIDAL FLOOD SURVEY
 BASE MAP FOR PROFILE NO. 9
 BARNSTABLE, MASS.
 TO CHATHAM, MASS.
 DEPARTMENT OF THE ARMY
 CORPS OF ENGINEERS
 WALTHAM, MASS.
 SEPTEMBER 1958



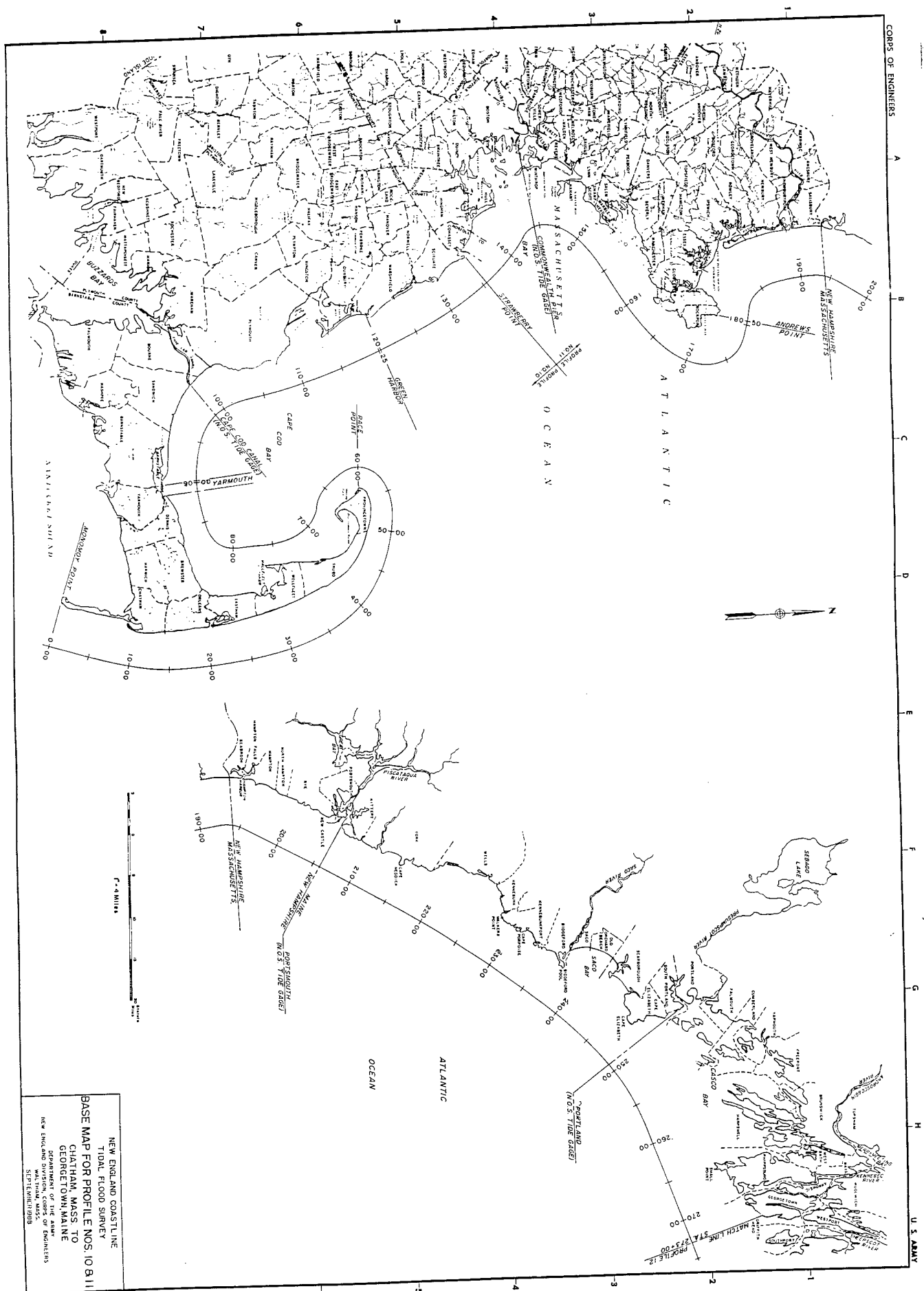


NOTES:
1. VARIES FROM YEAR TO YEAR. VALUE GIVEN
2. BASED ON 1954 DATA. OBSER-
VED RECORDS IN 1954 BY THE NATIONAL
OCEAN SURVEY (FORMER U.S.C.G.S.)
3. ELEVATIONS IN THE UNITED STATES
GEODETIC DATUM FOR ELEVATIONS IN THE UNITED
STATES. ELEVATIONS IN THE UNITED STATES
GEODETIC DATUM (M.S.L.) DATUM BUT NOT
TO BE CONFUSED WITH LOCAL MEAN SEA LEVEL.
4. PRESENT SEA LEVEL CONDITIONS.

LEGEND
□ SEPTEMBER 21, 1938 HIGH WATER
△ SEPTEMBER 14-15, 1944 HIGH WATER
▲ MARCH 16-17, 1956 HIGH WATER
● 190 NUMBER IDENTIFIES HIGH WATER MARK.

● ELLIOT WATERMARK - OCTOBER 1991

NEW ENGLAND COASTLINE
TIDAL FLOOD SURVEY
TIDAL FLOOD PROFILE NO. 9
BARNSTABLE, MASS.
TO CHATHAM, MASS.
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
SEPTEMBER 1948

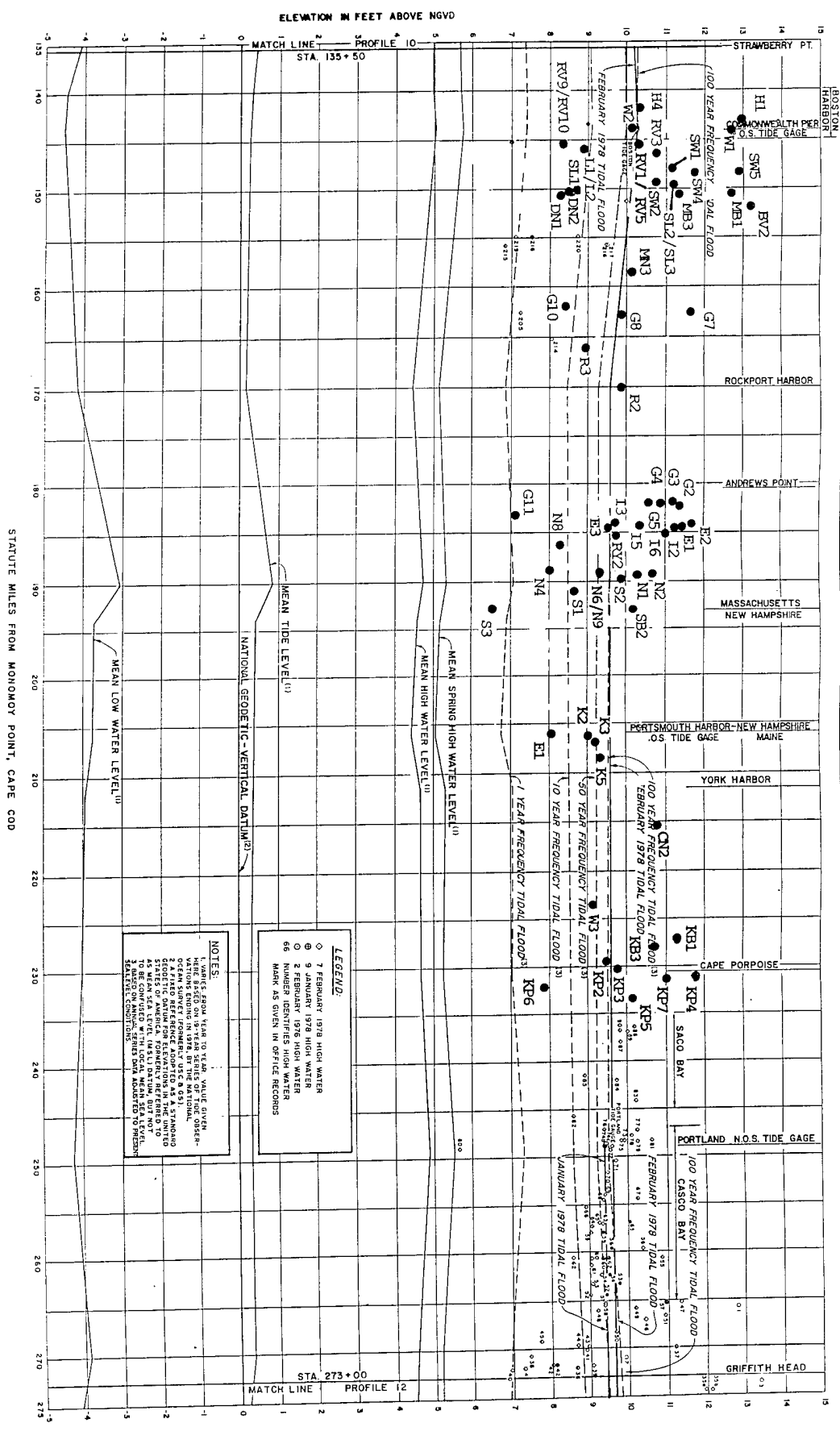


NEW ENGLAND COASTLINE
TIDAL FLOOD SURVEY
BASE MAP FOR PROFILE NOS. 10 & 11
CHATHAM, MASS. TO
GEORGETOWN, MAINE

DEPARTMENT OF THE ARMY
WASHINGTON, D.C.
SEPTEMBER 1918



NEW ENGLAND COASTLINE
TIDAL FLOOD SURVEY
TIDAL FLOOD PROFILE NO. 10



HIGH WATERMARK - OCTOBER 1991

NEW ENGLAND COASTLINE
TIDAL FLOOD SURVEY

NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASS.

APPENDIX

ELLIOT, MAINE

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Piscataqua River		E1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
at Mouth of Spinney Creek	Eliot	ME
(Tributary of)	(City or Town)	(State)

Description of high watermark: Nailed on pile at entrance of boatslips. Physical
evidence available from scarring on other piles. Water level not as 1978 nor
Hurricane Gloria in 1985.

7 November 1991

(Date obtained)

Victor Hom and Mark Deschenes

(Obtained by)

Charles Becounski, Great Cove Boat Club Dock Manager, 1 Main St., Eliot, ME

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

27 Sept 49

CORPS OF ENGINEERS, U.S. ARMY

PAGE _____

SUBJECT H.W. MARKS FOR OCT 21 FLOOD

COMPUTATION ELIOT ME

COMPUTED BY J. L. DODD & M. DESCHER

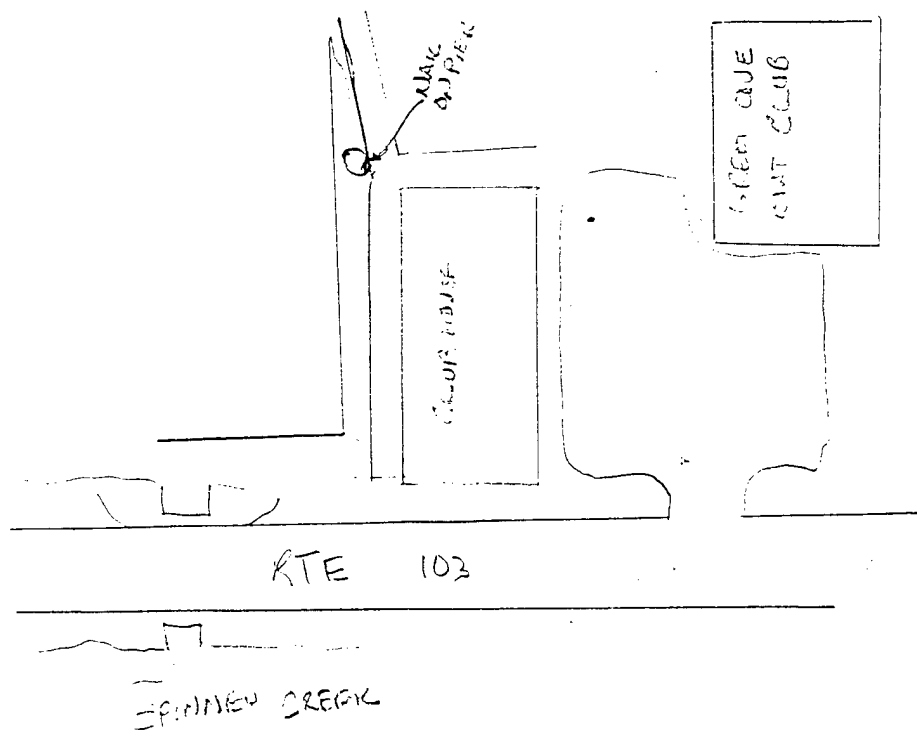
CHECKED BY _____

DATE _____



GREAT COVE BOAT CLUB H.W. 1
1 MAIN ST. ELIOT, ME
11/7/91 (12) + MD

PISCATAQUA RIVER



APPENDIX
KITTERY, MAINE

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Piscataqua River		KI
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
at Mouth of Spruce Creek	Kittery	ME
(Tributary of)	(City or Town)	(State)

Description of high watermark: Stake nailed next to tree at front of red house
on Rt. 103 heading east (2 Pepperell Street). Highwater is evident as pointed
out by observer.

7 November 1991	Victor Hom and Mark Deschenes
(Date obtained)	(Obtained by)
Jim G. Foley, Foley Boatbuilding, Inc., 5 Seapoint Road	
(Name and address of person pointing out high watermark)	

(If not pointed out, how obtained?)	(Date and hour of high watermark)
-------------------------------------	-----------------------------------

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

27 Sept 49

CORPS OF ENGINEERS, U.S. ARMY

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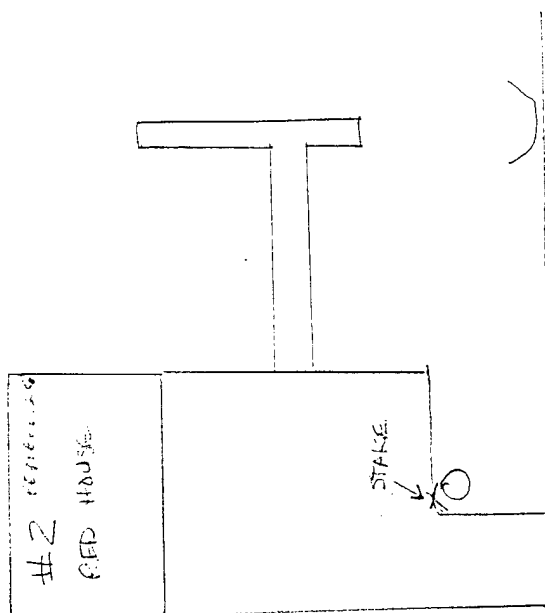
SUBJECT HW MARKS ENG. ST 91 FDD

COMPUTATION KITTERY PT, ME

COMPUTED BY WILLIAM L. DESCHENES CHECKED BY _____ DATE _____



MOUTH OF SPRUCE CREEK WM #2
AND PISQUATAQUA ROAD
KITTERY PT ME 11/7/91 UP



SPRUCE
CREEK

7.1

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Piscataqua River</u>	<u></u>	<u>K2</u>
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
<u>(Frisbee's Wharf)</u>	<u>Kittery</u>	<u>ME</u>
(Tributary of)	(City or Town)	(State)

Description of high watermark: Debris line in protected cove agrees with mark
an observer of fishing boat described. Checked with eye leveller. Confirmed
observer's report of water on edge of seawall abutment. Location at
Pepperell Yacht Club.

<u>7 November 1991</u>	<u>Victor Hom and Mark Deschenes</u>
(Date obtained)	(Obtained by)

Frank C. Frisbee, 2 Bellamy Lane, Kittery Point
(Name and address of person pointing out high watermark)

<u></u>	<u></u>
(If not pointed out, how obtained?)	(Date and hour of high watermark)

<u></u>	<u></u>	<u></u>	<u></u>
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)

<u></u>	<u></u>	<u></u>
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)

<u></u>	<u></u>	<u></u>
(Elevation determined by)	(Date)	(Order of levels)

<u></u>	<u></u>
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

27 Sept 49

CORPS OF ENGINEERS, U.S. ARMY

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SUBJECT HW MARK FOR OCT 91 FLOOD

COMPUTATION FRISBEE'S WHARF KITTERY PT ME

COMPUTED BY M. DESCHENES - J HOM CHECKED BY _____ DATE _____



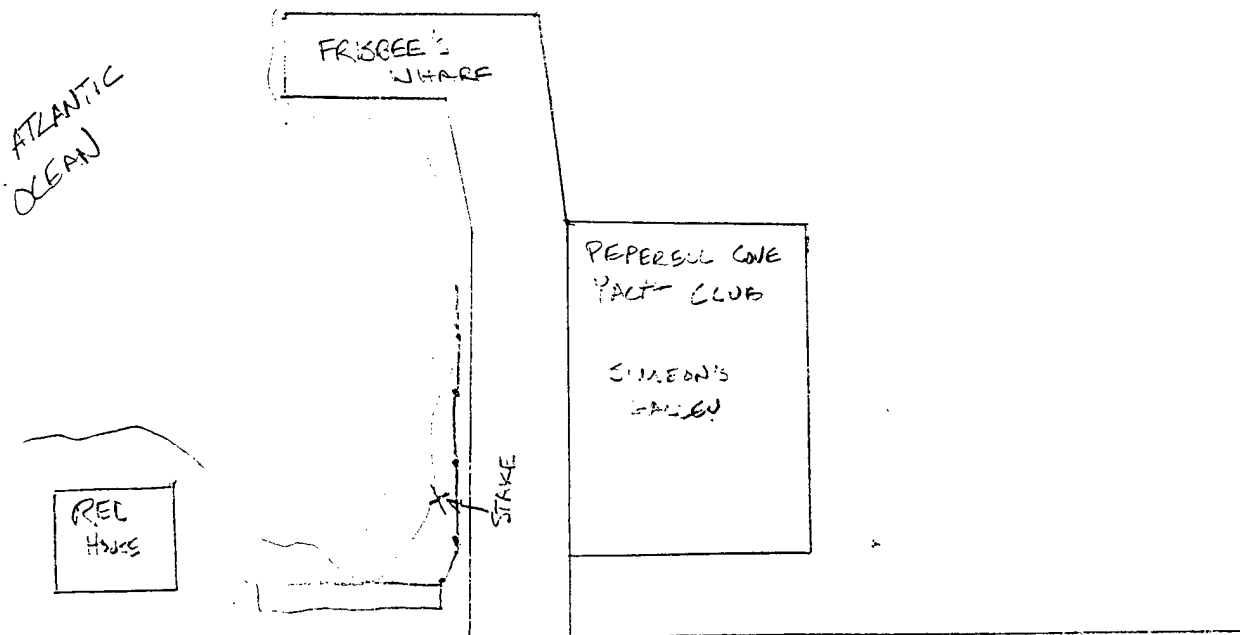
FRISBEE WHARF

WM 3

HW MARK KITTERY PT ME

MAD
JH

11/7/91



RT 103

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Chauncy Creek		K3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
Piscataqua River	Kittery	ME
(Tributary of)	(City or Town)	(State)

Description of high watermark: Debris line near cable conduit on south side of Chauncy Creek along Goodwin Avenue. The mark is located near another stake used as survey point for future Girl Scout quarter.

7 November 1991	Victor Hom and Mark Deschenes
(Date obtained)	(Obtained by)

See James Barker, Maine Land Surveyor for Benchmark--(207) 846-1432
(Name and address of person pointing out high watermark)

Debris Line	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
---------------------------	---------	-------------------------	---------

(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
---	---------------	-----------------------

(Elevation determined by)	(Date)	(Order of levels)
---------------------------	--------	-------------------

(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
--------------------------------------	---------------------------------------

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

27 Sept 49

CORPS OF ENGINEERS, U. S. ARMY

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SUBJECT HW MARK FOR OCT 91 FLOODCOMPUTATION GERRISH ISLAND M.E.COMPUTED BY J. HALL & M. DESCHAMPS

CHECKED BY _____

DATE _____



H.W. K3

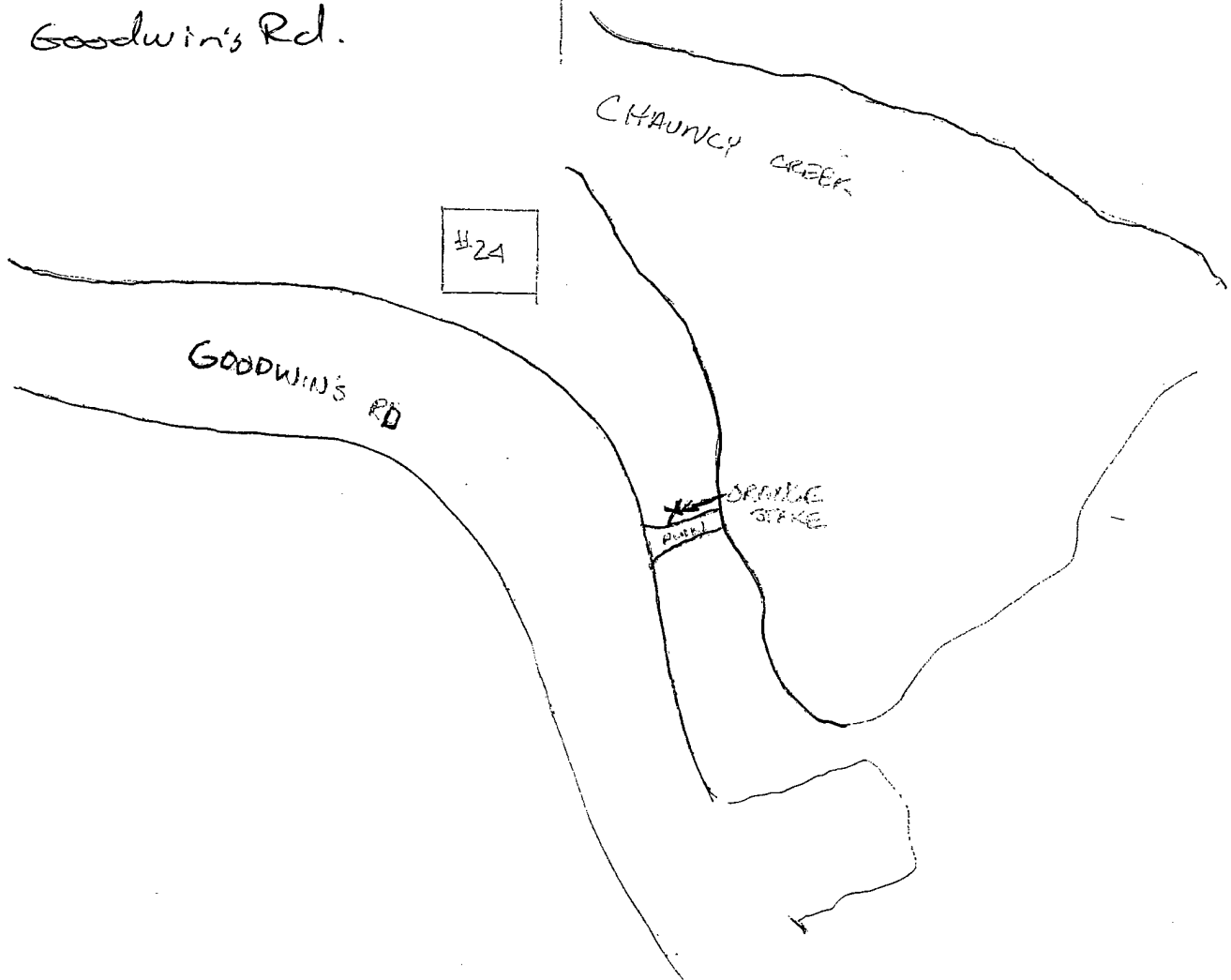
Goodwin's Rd.

"Serving the Maine Land Professional"

**MAINE
LAND
SURVEYORS, INC.**

603B NORTH ELM ST., YARMOUTH, MAINE 04096
(207)-846-1432

JAMES BARKER, RLS
PRESIDENT



DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		K4
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Kittery	ME
(Tributary of)	(City or Town)	(State)
Description of high watermark: Suspected wave action pushing tidal surges, thus creating a debris line. Stake marked on east side of Goodwin Road in front of 93 Goodwin Road (tan house).		
7 November 1991	Victor Hom and Mark Deschenes	
(Date obtained)	(Obtained by)	
(Name and address of person pointing out high watermark)		
(If not pointed out, how obtained?)	(Date and hour of high watermark)	
(Elev. of high watermark)	(Datum)	(Benchmark referred to)
(Datum)		
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
(Elevation determined by)	(Date)	(Order of levels)
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)	

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

27 Sept 49

SUBJECT H. W. MARK FOR OCT 91 FLOOD

COMPUTATION GEORGE ISLAND ME

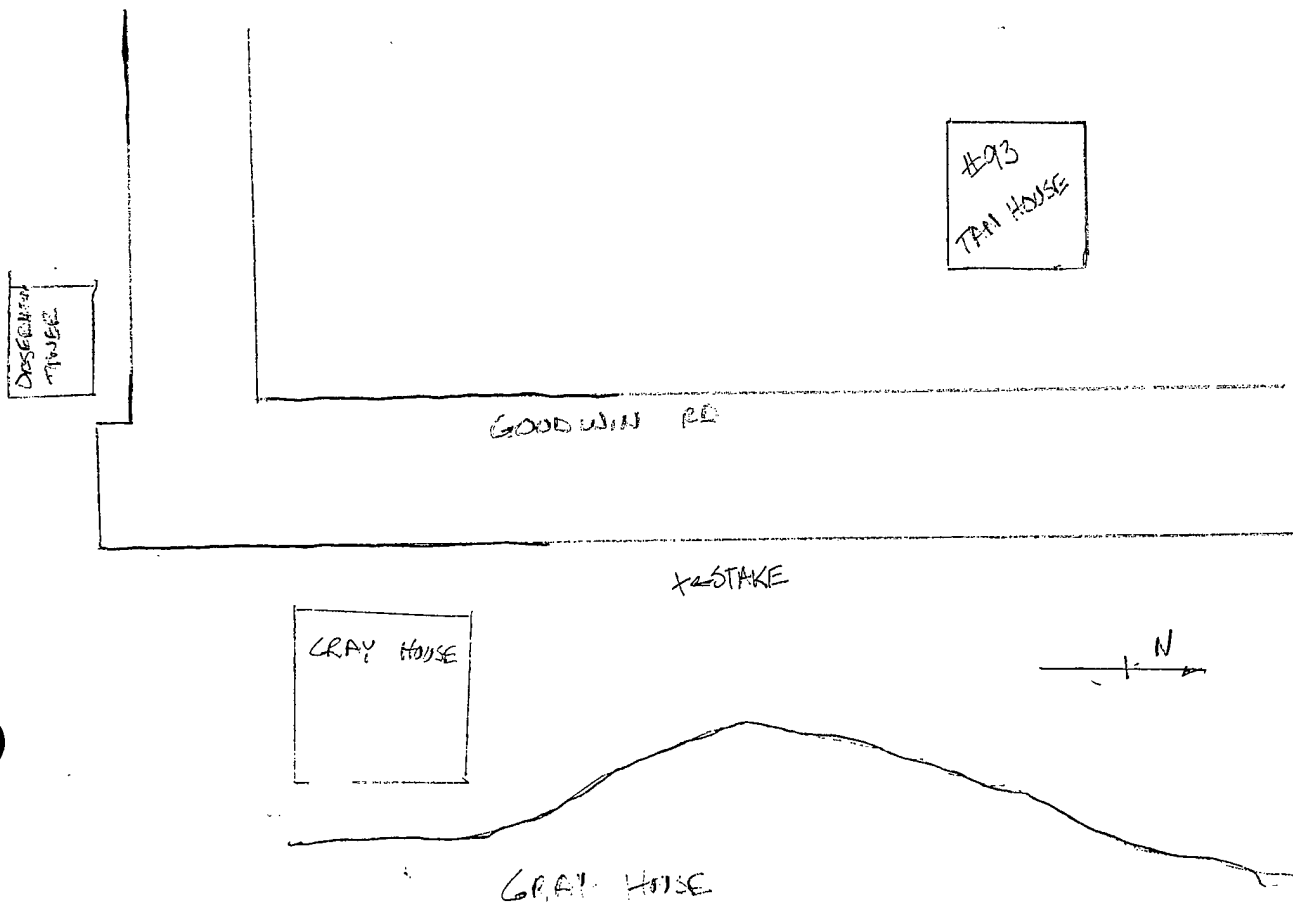
COMPUTED BY JOHN & M. DECHERES

CHECKED BY _____

DATE _____



K4
#93 Goodwin's Rd.



DEPARTMENT OF THE ARMY
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424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Beave Boat Harbor		K5
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
Atlantic Ocean	Kittery/York	ME
(Tributary of)	(City or Town)	(State)

Description of high watermark: Debris line upstream of bridge, Rt. 103.

Water mark is located across from house at 268 Beave Boat Harbor Road,
Payne property.

7 November 1991

(Date obtained)

Victor Hom and Mark Deschenes

(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

SUBJECT H.W MARK FOR OCT 91 FLOOD

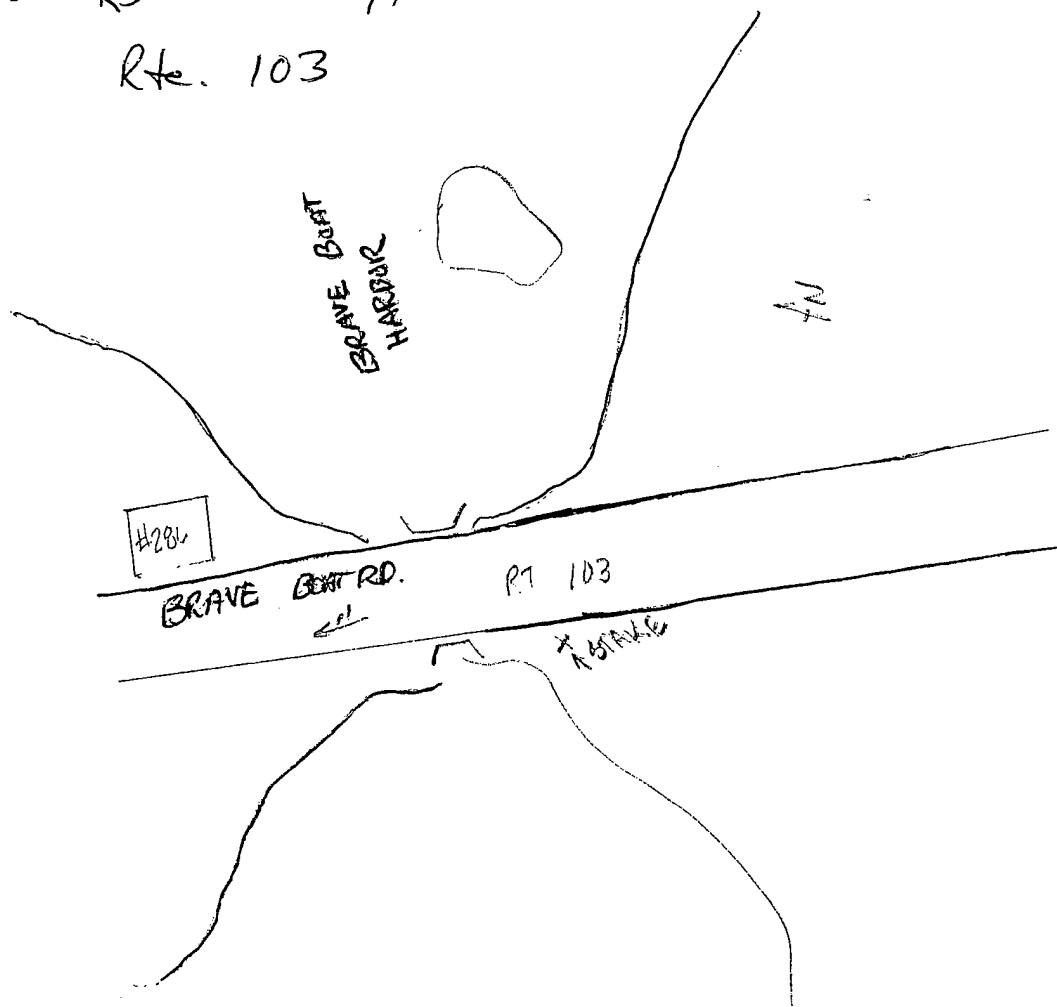
COMPUTATION RT 103 KITTERY 11E

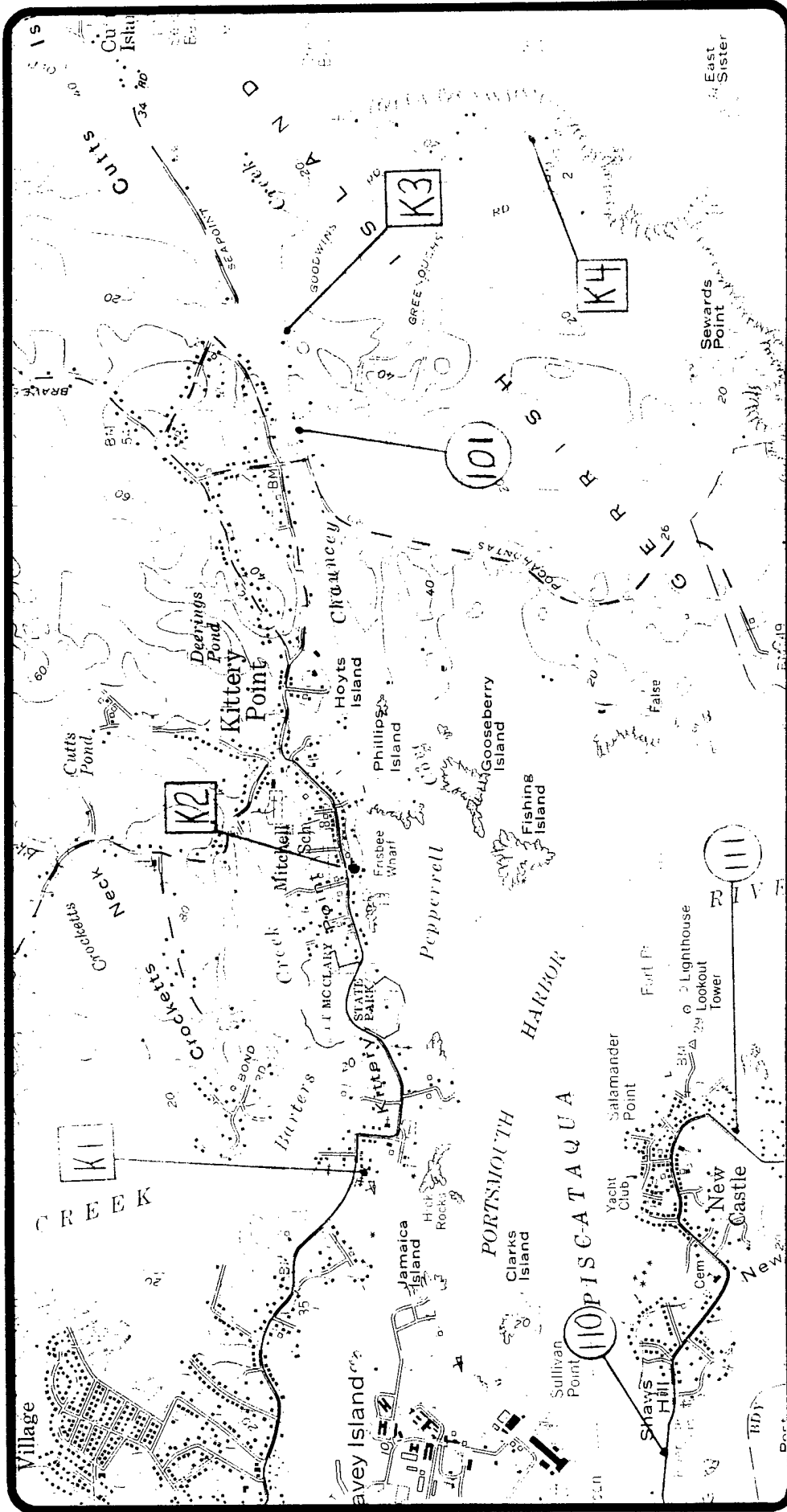
COMPUTED BY J. J. B. - P. G. S. M. S. CHECKED BY _____ DATE _____



H. W. K5 Kittery, Me.

Rte. 103



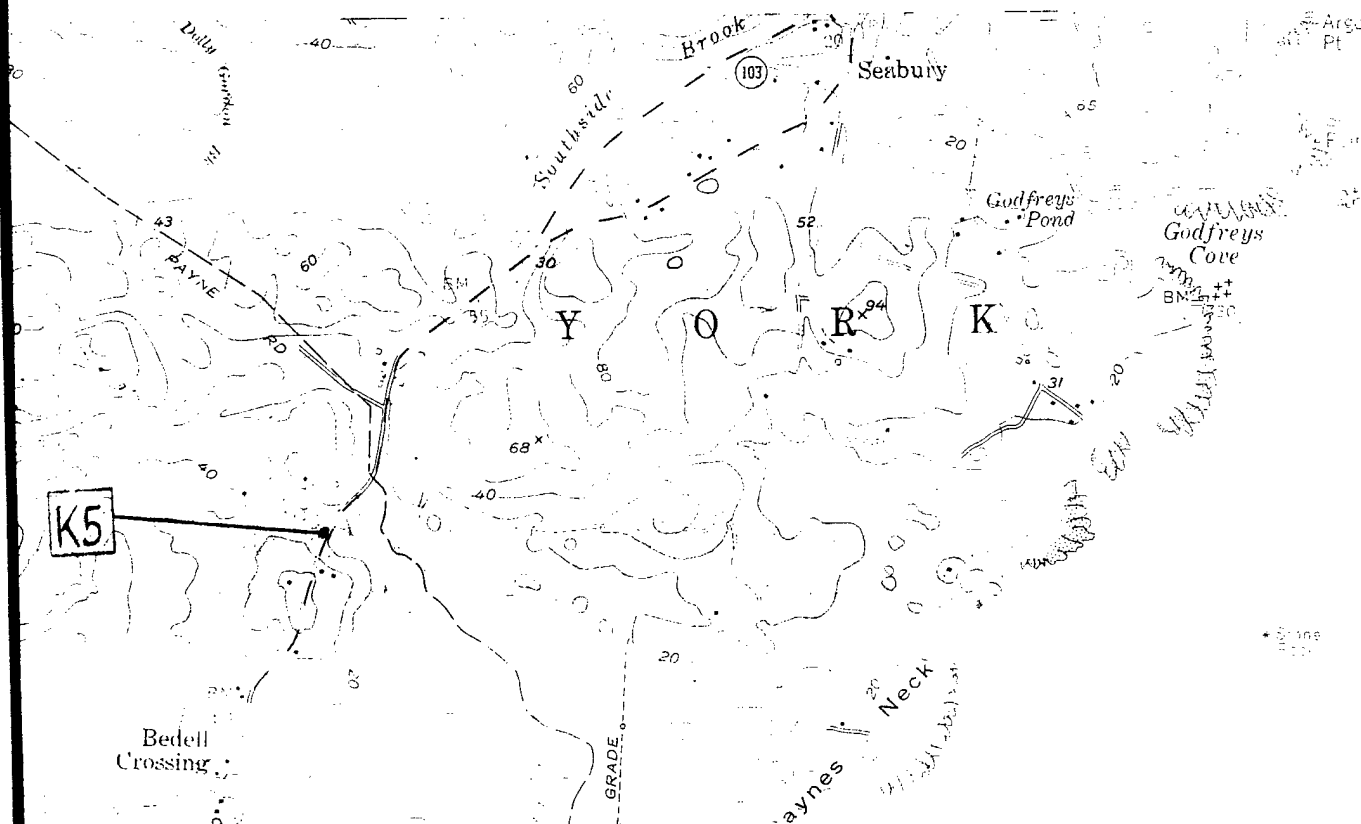


High Water Mark Location Map Halloween Storm, October, 1991 □ - 1991 ○ - 1978

USGS 7.5 Minute Quadrangle - Kittery, ME.-N.H.



US Army Corps
 of Engineers
 New England Division



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Kittery, ME.-N.H.

□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers

APPENDIX

SEABURY AND YORK HARBOR, MAINE

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		SI
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Seabury	ME
(Tributary of)	(City or Town)	(State)

Description of high watermark: Western Point Road, stake at debris line along tidal flats.

7 November 1991
(Date obtained)

Victor Hom and Mark Deschenes
(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line
(If not pointed out, how obtained?)

(Date and hour of high watermark)

Good

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

27 Sept 49

CORPS OF ENGINEERS, U.S. ARMY

PAGE _____

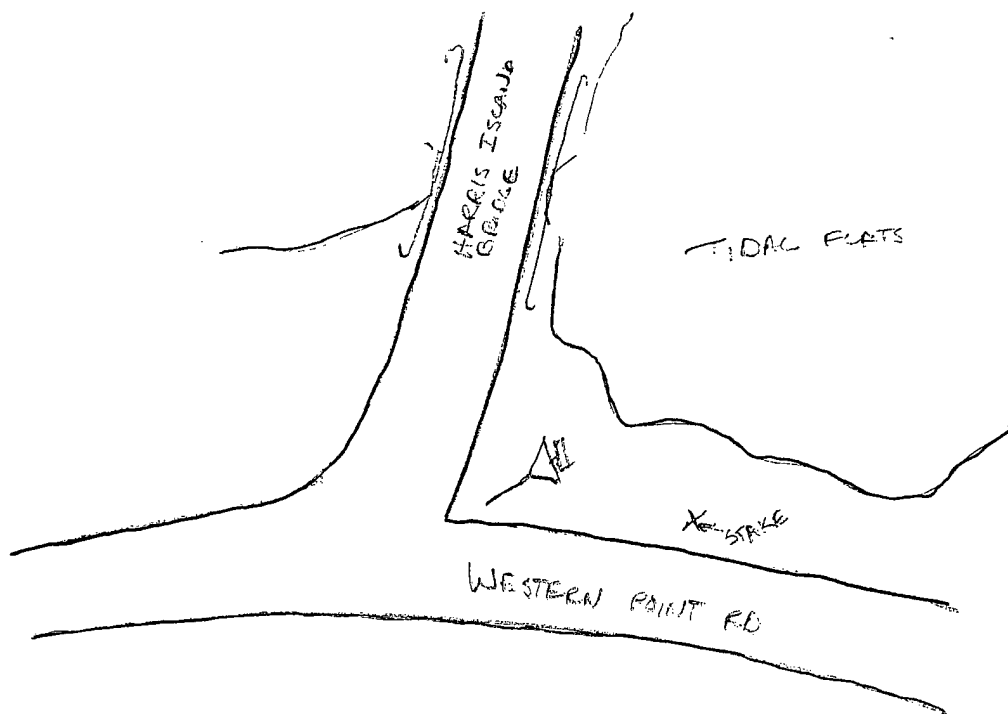
SUBJECT HW MARKS FOR OCT 91 FLOODCOMPUTATION SEABURY, MECOMPUTED BY V. HOLT & M. DESCHENES

CHECKED BY _____

DATE _____



H.W. 51 Seabury, Me.
Western Point Rd.



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Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Atlantic Ocean</u>	<u></u>	<u>YI</u>
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
<u></u>	<u>York Harbor</u>	<u>ME</u>
(Tributary of)	(City or Town)	(State)

Description of high watermark: Debris line outlining possible high water mark
from flow from west side of Stage Neck, Harbor Beach Rd.

7 November 1991

(Date obtained)

Mark Deschenes and Victor Hom

(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

27 Sept 49

CORPS OF ENGINEERS, U.S. ARMY

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SUBJECT H.W. MARKS FOR SET 2: 2-200

COMPUTATION YORK HARBOR ME

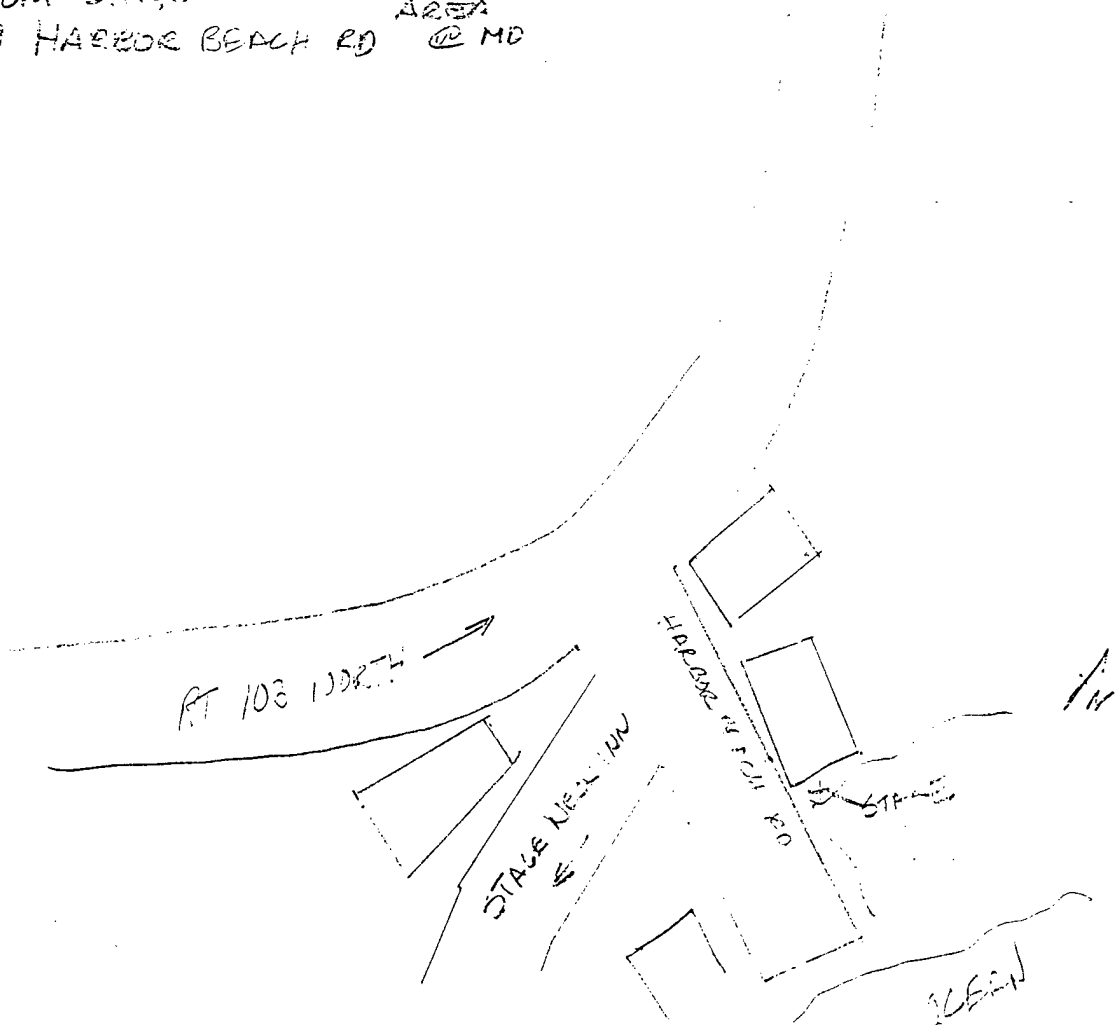
COMPUTED BY W.H. - P. 1000-1000

CHECKED BY _____

DATE _____



H.W. MARK ACROSS 11791
FROM STAGENECK INN REC H.W.S
ON HARBOR BEACH RD AREA @ MD



HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Description of high watermark: Debris along Rt. 130 where tide rose above road elevation. Orange line painted on telephone pole; nail in pole also.

(Obtained by)

(Name and address of person pointing out high watermark)

(Date and hour of high watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

27 Sept 49

CORPS OF ENGINEERS, U.S. ARMY

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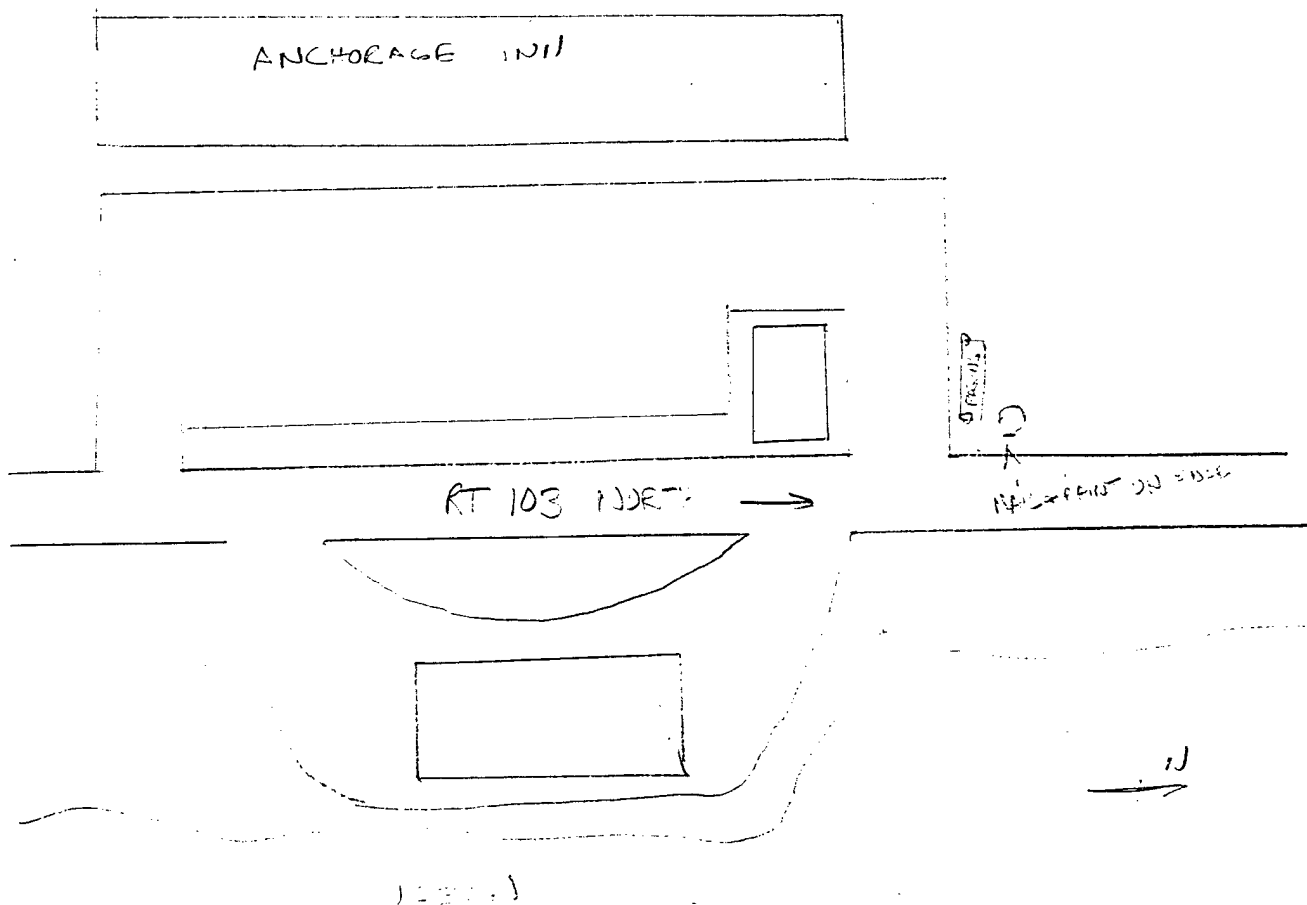
SUBJECT HW MARKS FOR OCT 2, 1950

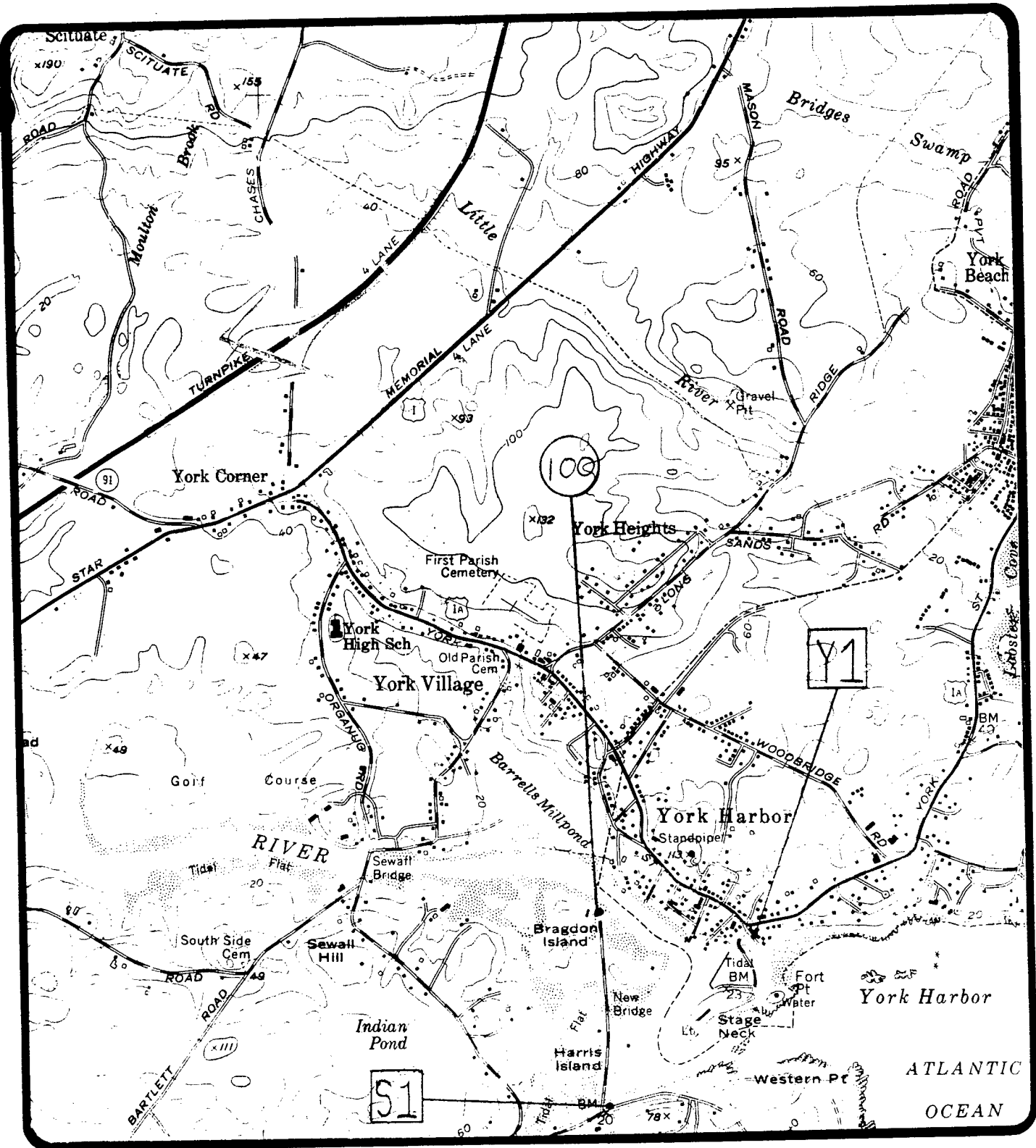
COMPUTATION _____

COMPUTED BY U. S. ENGINEER J. E. H. W. CHECKED BY _____ DATE _____



H.W. MARK ON TELEPHONE POLE
15-20' FROM PARKING
ENTRANCE TO ANCHOR. INN
10/10/50 MD





High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - York Harbor, Maine

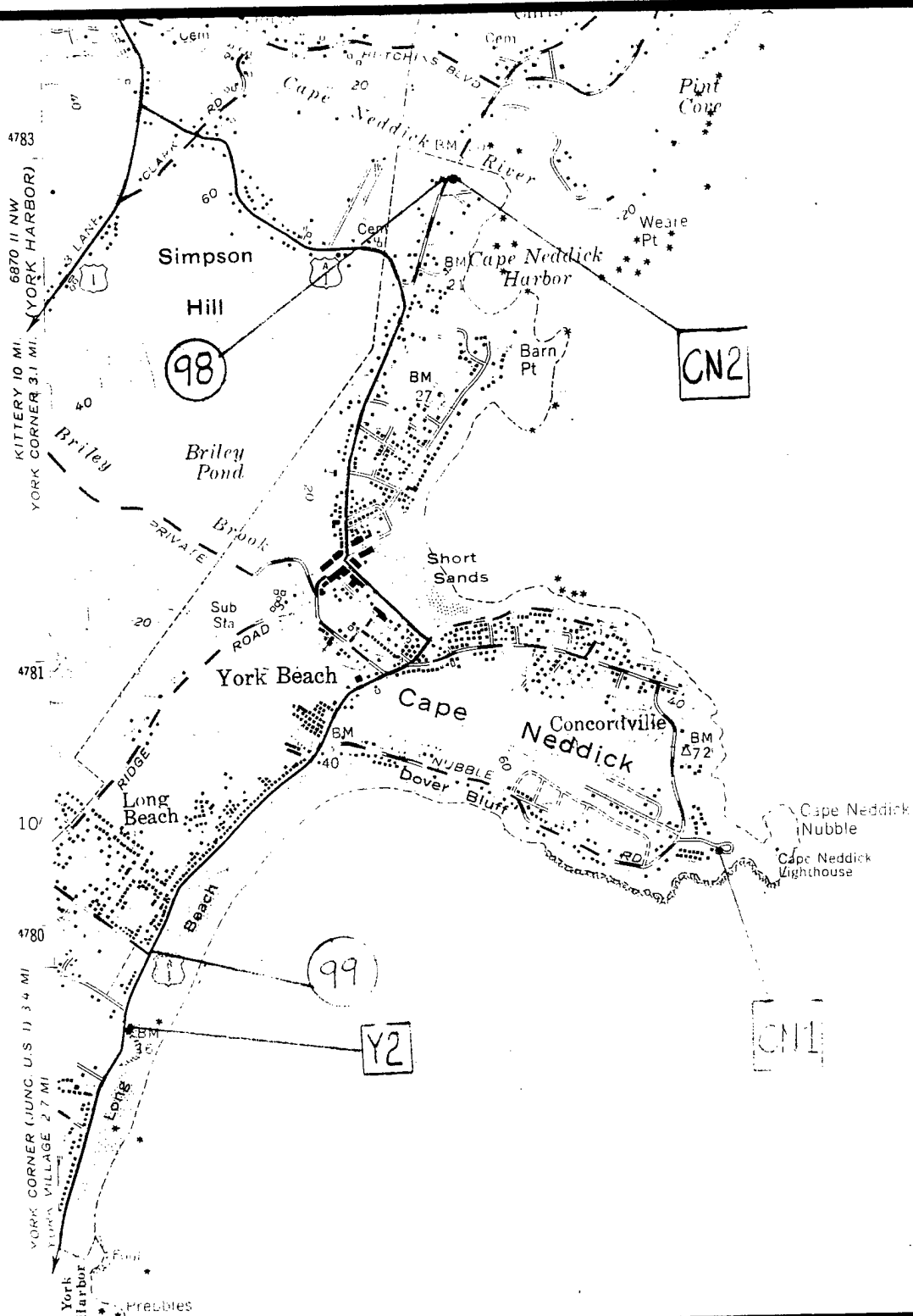
□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - York Beach, Maine

□ - 1991

○ - 1978

New England Division



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of Engineers

APPENDIX

CAPE NEDDICK, MAINE

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		CN1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Cape Neddick	ME
(Tributary of)	(City or Town)	(State)

Description of high watermark: Stake at debris line on interior shelter cove
at Cape Neddick.

7 November 1991

(Date obtained)

Victor Hom and Mark Deschenes

(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

Good

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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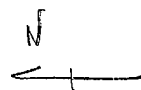
SUBJECT HW MARK FOR OCT 91 FLOODCOMPUTATION CAPE NEDDICK PLECOMPUTED BY W. DESCHENES & U. HOM

CHECKED BY _____

DATE _____



H.W. CN1
Cape Neddick



CAPE NEDDICK
LIGHT



OCEAN



STAKE

SHIVER
PACIFIC
LINED CTR

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Atlantic Ocean</u>		CN2
<u>(Name of River, Bay or Harbor)</u>	<u>(Miles from Mouth)</u>	<u>(Watermark No.)</u>
	<u>Cape Neddick</u>	<u>ME</u>
<u>(Tributary of)</u>	<u>(City or Town)</u>	<u>(State)</u>

Description of high watermark: Debris line on banks of Cape Neddick River.

Paint line on tree at camp ground.

7 November 1991

(Date obtained)

Mark Deschenes and Victor Hom

(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour) (Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

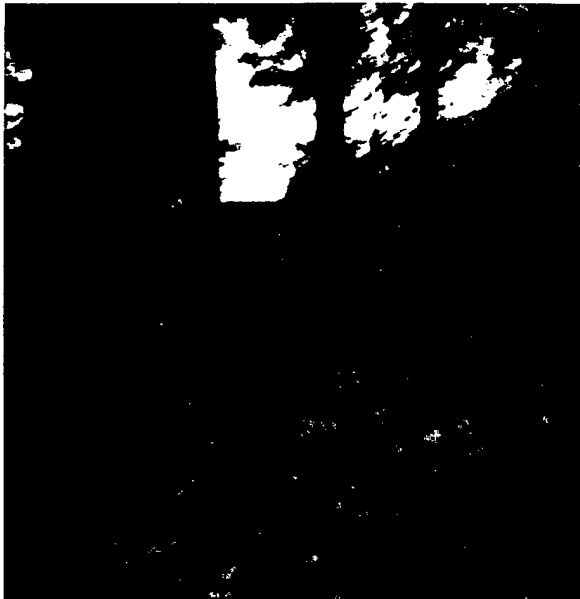
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

27 Sept 49

SUBJECT H.W. MARKS FOR OCT 91 FLOODCOMPUTATION CAPE NEDDICK NECOMPUTED BY M. DESCHERES & V. HON

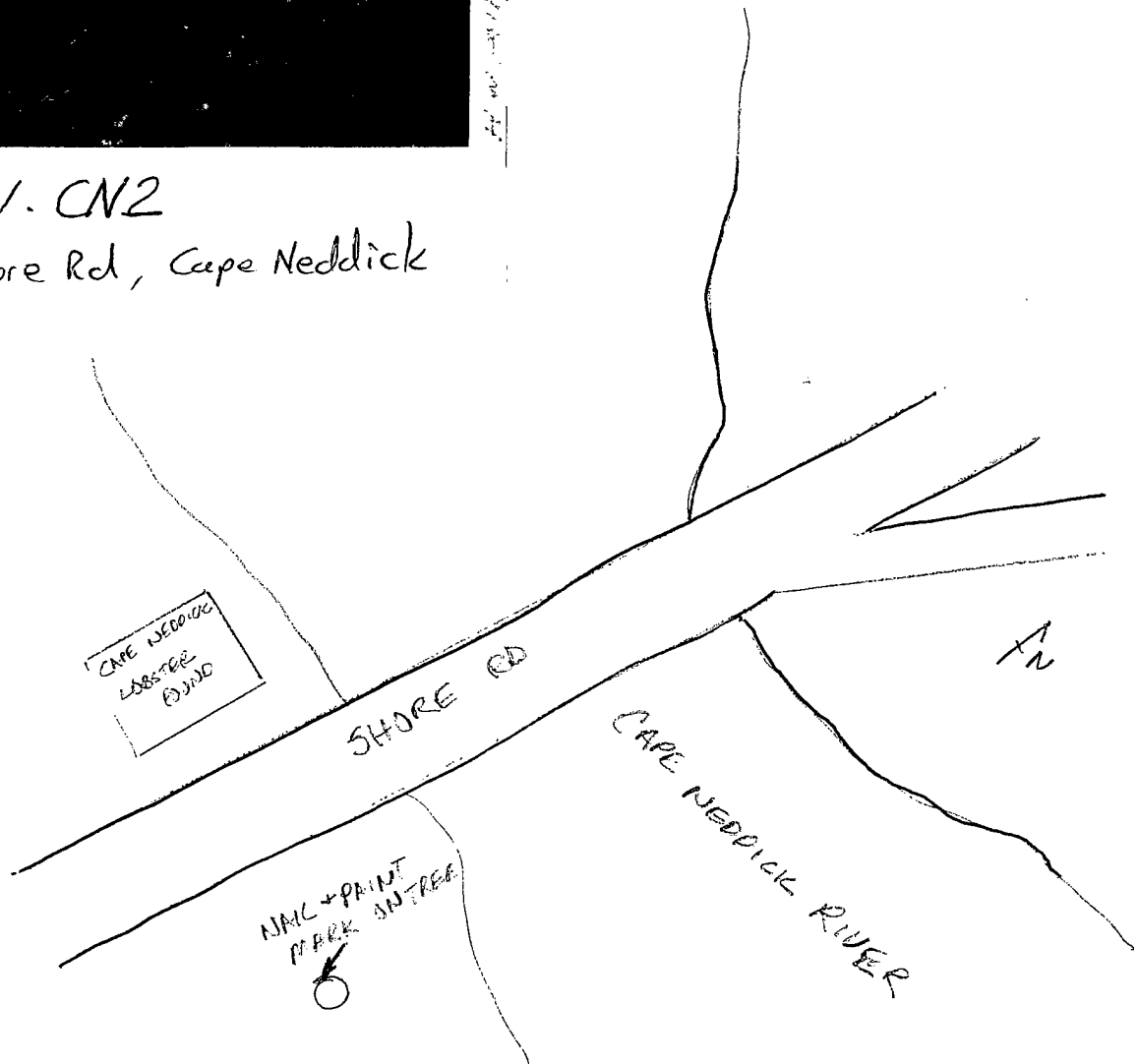
CHECKED BY _____

DATE _____



H. W. CN2

Shore Rd, Cape Neddick



DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		CN3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Cape Neddick (Phillips Cove)	ME
(Tributary of)	(City or Town)	(State)

Description of high watermark: Debris line on inside pond at Phillips Cove.

Stake placed at debris line.

7 November 1991

(Date obtained)

Victor Hom and Mark Deschenes

(Obtained by)

(Name and address of person pointing out high watermark)

Debris

(If not pointed out, how obtained?)

(Date and hour of high watermark)

Good

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

27 Sept 49

CORPS OF ENGINEERS, U.S. ARMY

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SUBJECT H.W. MARKS FOR SET 21 FLOOD

COMPUTATION PHILLIPS COVE LAPE 13000 2%

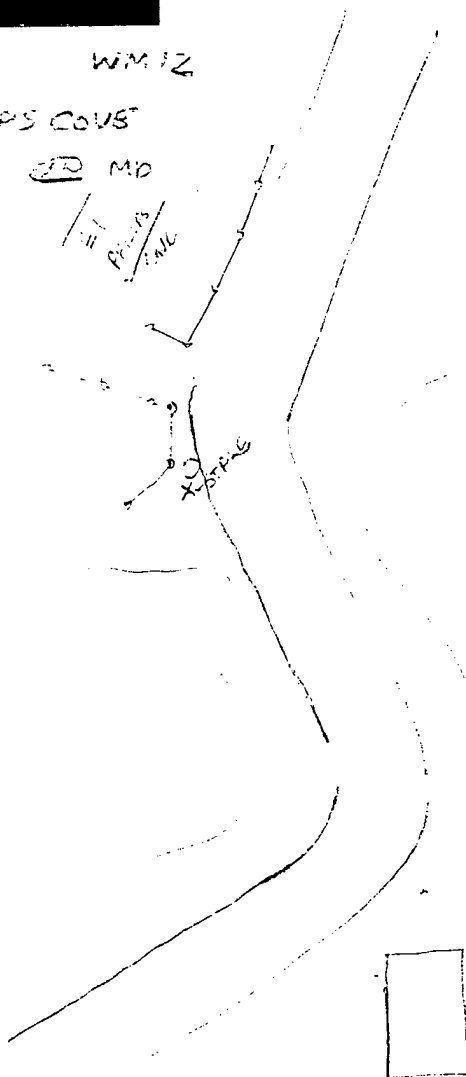
COMPUTED BY 1 HON & W LEECHENEE

CHECKED BY _____

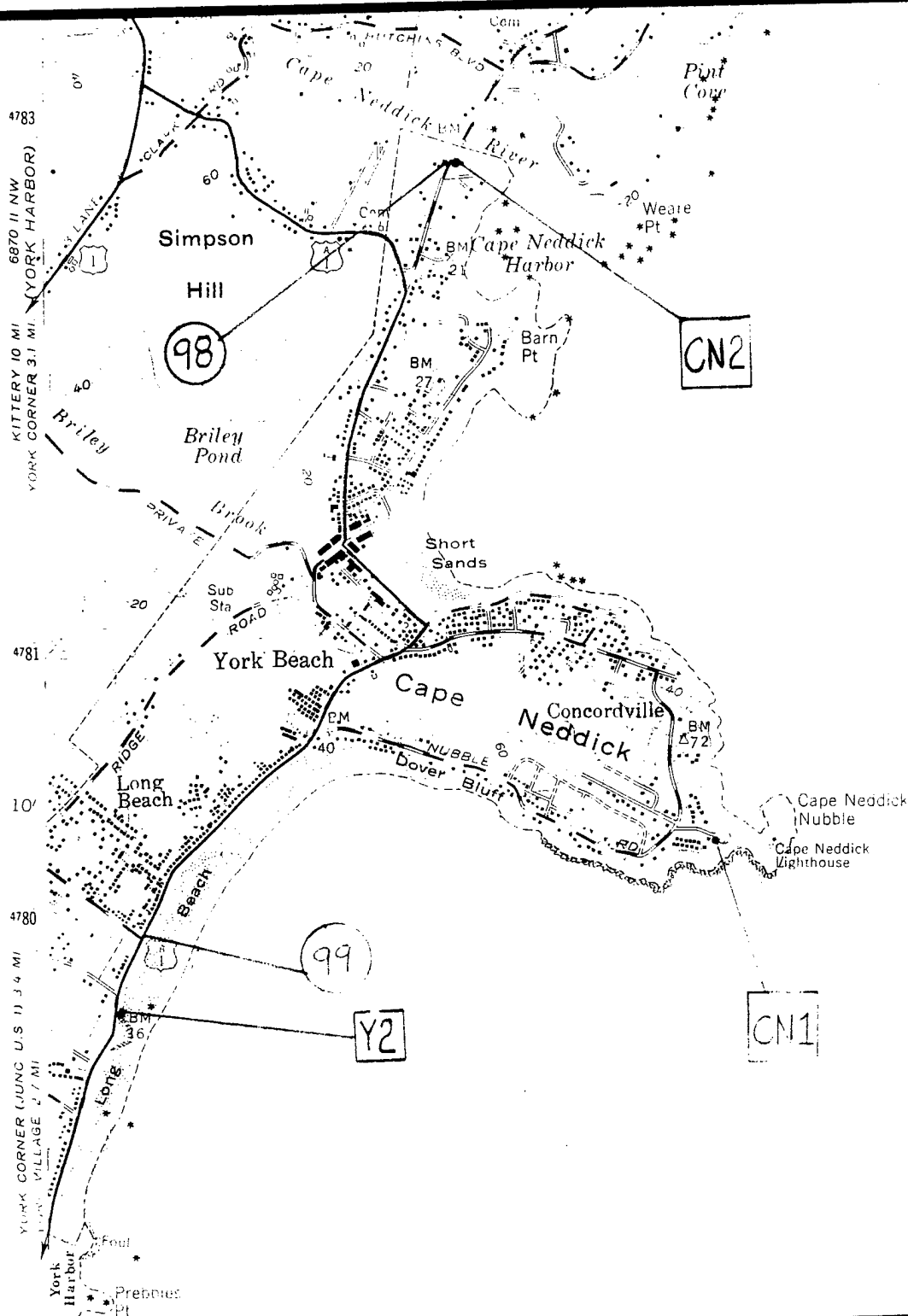
DATE _____



H.W. MARK STAKED WM 12
IN FRONT OF 1 PHILLIPS COVE
PHILLIPS COVE 11/7/91 @ MD



OCEAN



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - York Beach, Maine

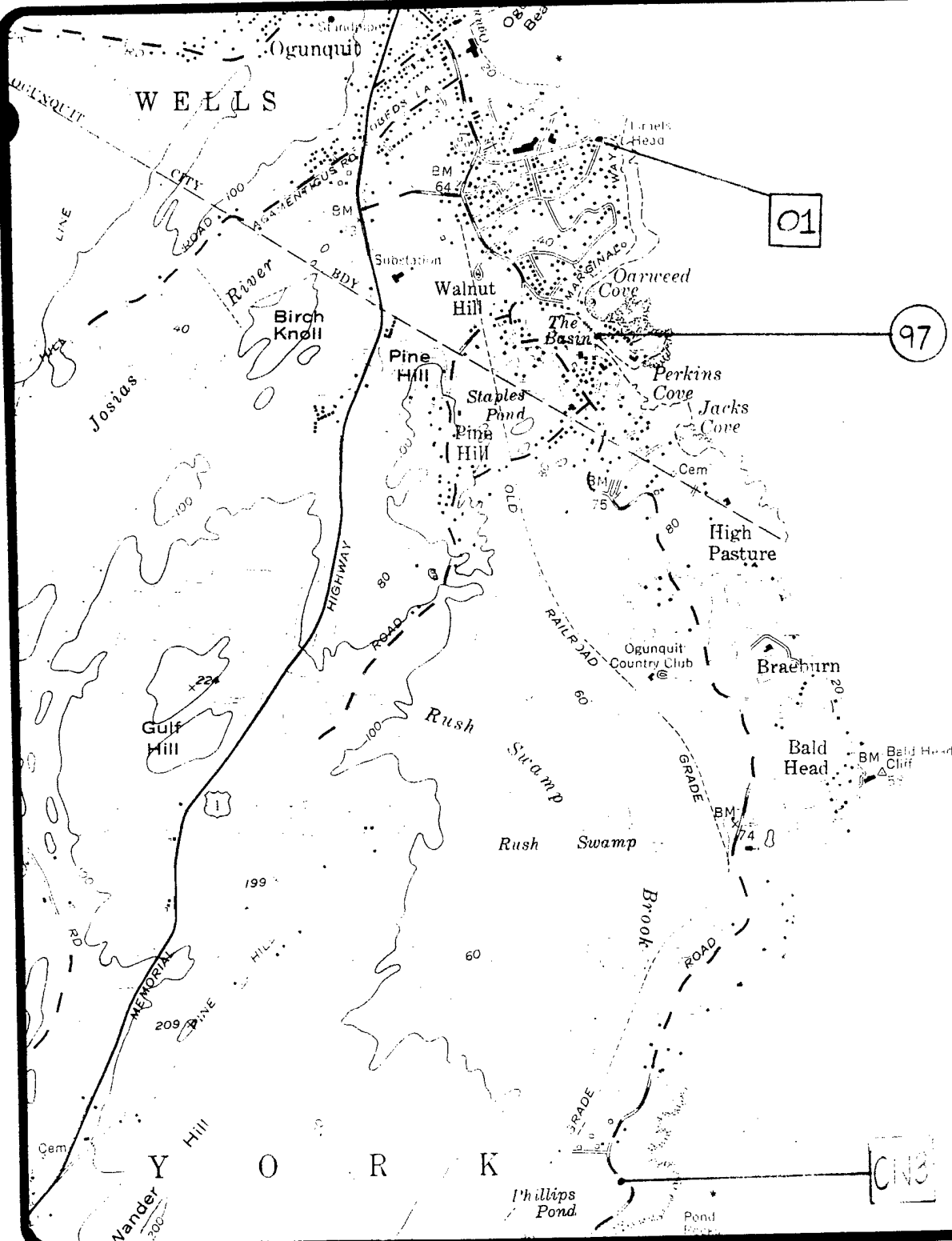
□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Wells, Maine

□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers

APPENDIX
OGUNQUIT, MAINE

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		01
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
(Israels Head)	Ogunquit	ME
(Tributary of)	(City or Town)	(State)

Description of high watermark: Stake at intersection across from small
lighthouse in a protected area.

7 November 1991

(Date obtained)

Victor Hom and Mark Deschenes

(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

Good

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

27 Sept 49

CORPS OF ENGINEERS, U. S. ARMY

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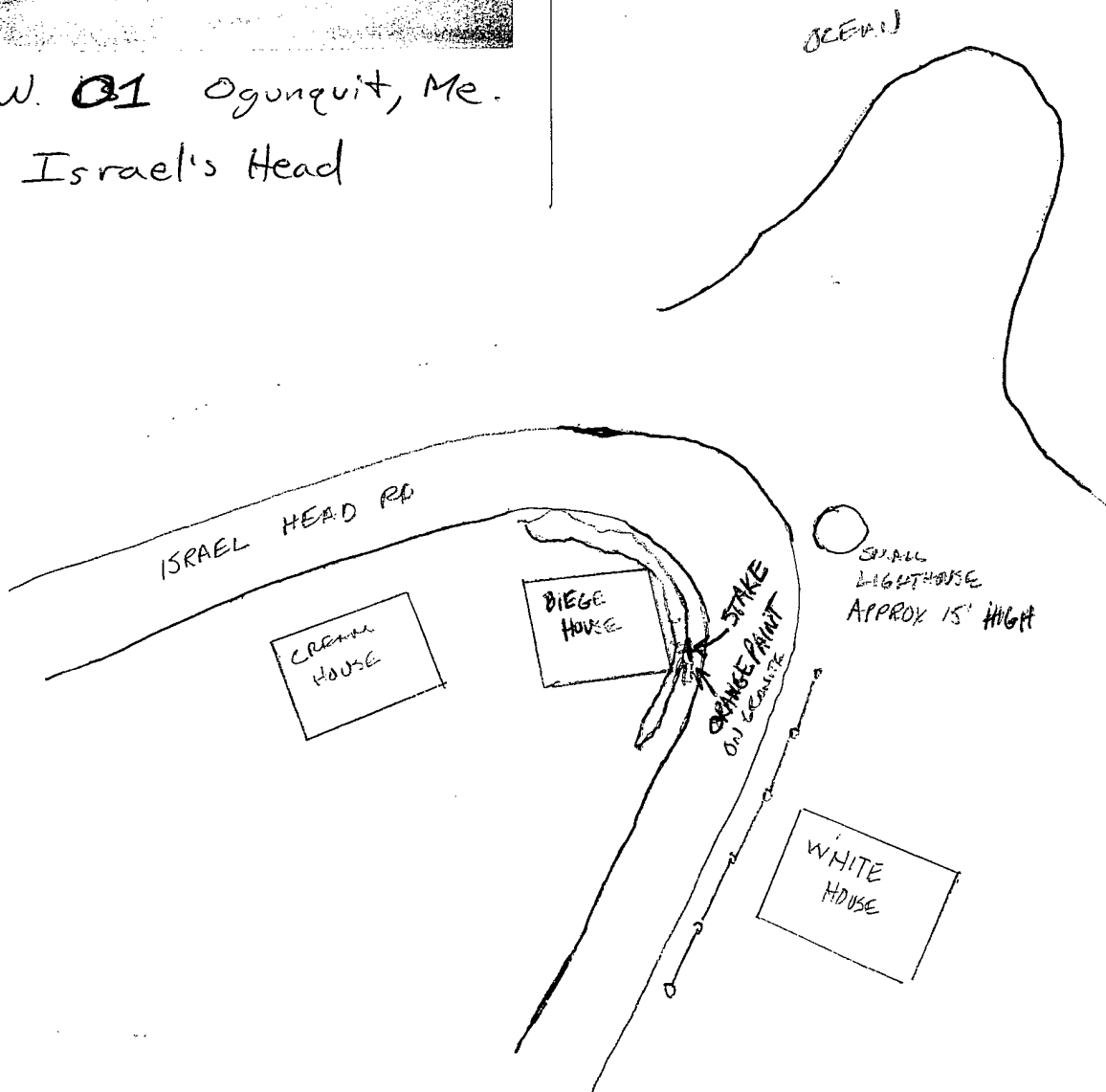
SUBJECT H.W. MARKS FOR OCT 91 FLOODCOMPUTATION OGONQUIT MECOMPUTED BY W. DESCHENES & W. HALL

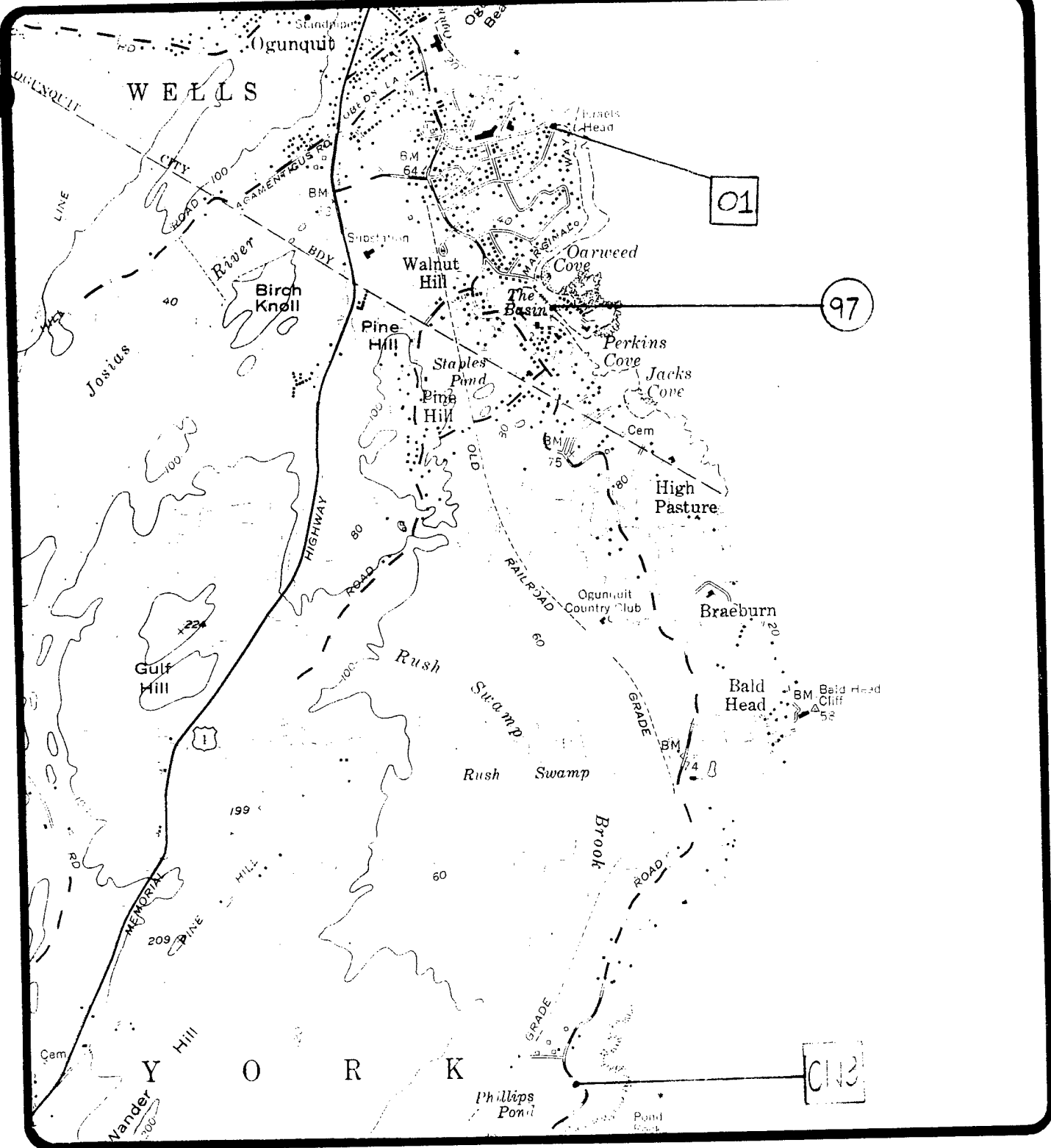
CHECKED BY _____

DATE _____



H.W. 01 Ogunquit, Me.
Israel's Head





High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Wells, Maine

□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers

APPENDIX

WELLS, MAINE

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		W2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Wells	ME
(Tributary of)	(City or Town)	(State)

Description of high watermark: PK nail with orange ribbon to the left of the
garage door approximately 14 inches above driveway marks height of water.

6 November 1991

(Date obtained)

Karen Schofield and John Yen

(Obtained by)

Bob Carberry (Mailing: RR4 Box 529 Wells Street) Island Ave.

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Not very confident point. Probable overtopped flooding because beach and
houses along the ocean are higher than mark.

Water mark No. 2

Wells, M.E.

1/20/77



Drakes Island Beach

Beach Access

Island Avenue

Drakes Island Rd.

Brown
Shingle
House

Garage

PK Nail with orange
ribbon
($\approx 14"$ above
driveway)

Gray
Shingle
House

Gray Fence

W 2

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean - Webhannet River
(Name of River, Bay or Harbor) (Miles from Mouth) W/3 (Watermark No.)
Wells ME
(Tributary of) (City or Town) (State)

Description of high watermark: Wells Harbor Food and Boat. Orange stake
marks the debris line location. The stake is near the boat ramp to the right
of the parking lot. The stake is on the left of the ramp. Highwater mark is
where the stake and the ground meet.

7 November 1991

Karen Schofield and John Yen

(Date obtained)

(Obtained by)

Worker at Harbor confirmed the debris line as the highwater mark.

(Name and address of person pointing out high watermark)

Distinct Debris Line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Confident Point. Distinct debris line in same location described by worker.

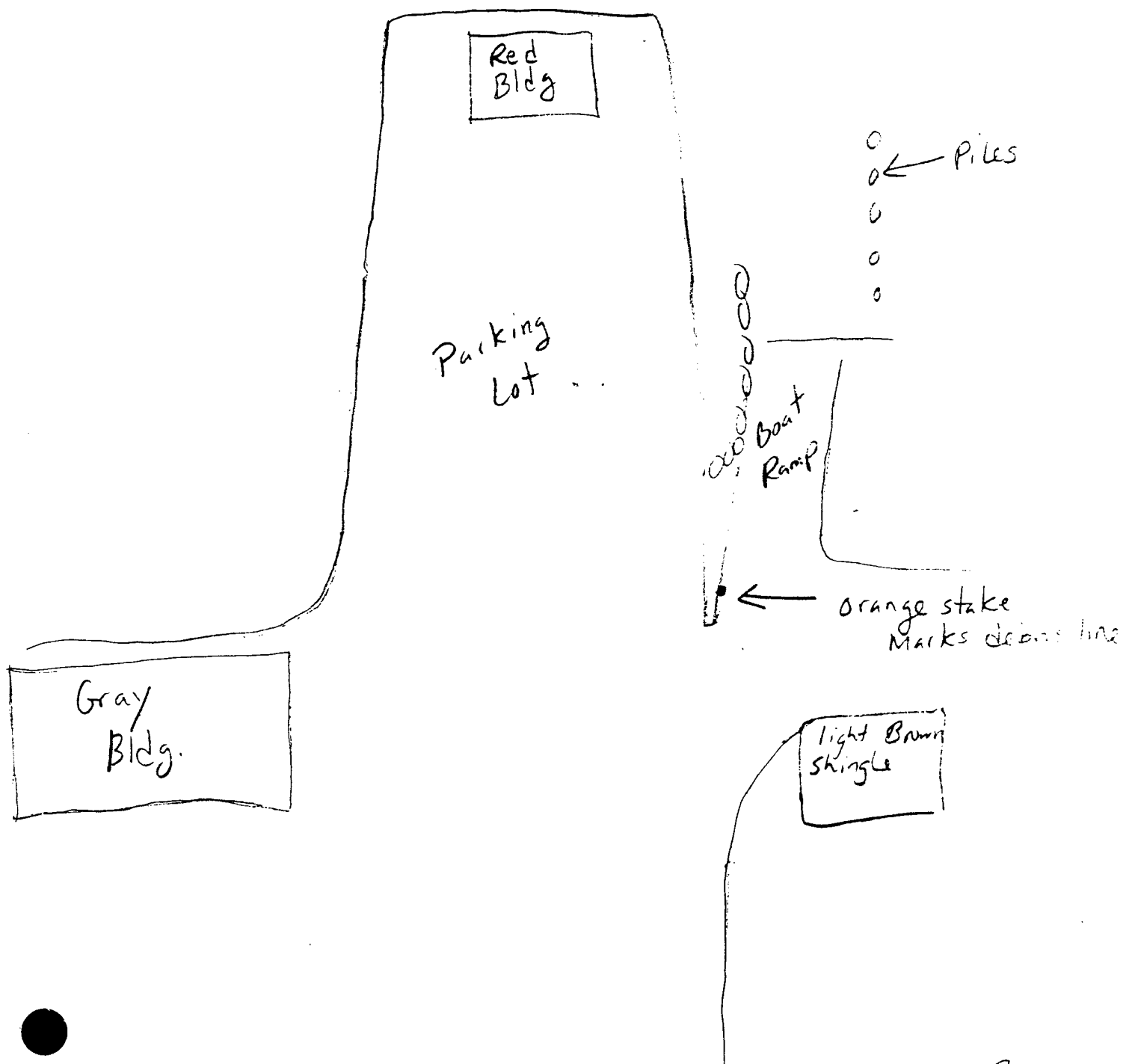
Watermark No 3

Wells, ME

1900-11



Webhannet. River



DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Atlantic Ocean</u>	<u>W/4</u>	
<u>(Name of River, Bay or Harbor)</u>	<u>(Miles from Mouth)</u>	<u>(Watermark No.)</u>
<u>(Tributary of)</u>	<u>Wells</u>	<u>ME</u>
	<u>(City or Town)</u>	<u>(State)</u>

Description of high watermark: Two orange ribbons mark debris line on fence.
 The mark is approximately 1 foot above rim at the bottom of the fence
 on the 4th pole in from the ocean. There is also a tag on the 3rd pole from the
 ocean.

<u>7 November 1991</u>	<u>Karen Schofield and John Yen</u>
<u>(Date obtained)</u>	<u>(Obtained by)</u>
<u>William Chick, 318 Atlantic Avenue and Theresa Mailhot, 319 Atlantic Ave (owner)</u>	
<u>(Name and address of person pointing out high watermark)</u>	

<u>(If not pointed out, how obtained?)</u>	<u>(Date and hour of high watermark)</u>
--	--

<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>
<u>(Elevation of high watermark above water surface)</u>	<u>(Date & Hour)</u>	<u>(Class. of watermark)</u>	
<u>(Elevation determined by)</u>	<u>(Date)</u>	<u>(Order of levels)</u>	
<u>(Nearest dam upstream or downstream)</u>	<u>(Latitude and longitude of watermark)</u>		

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Mostly Confident Point. Distinct line along fence. However right on the shore and near jetty.

Highwater Mark T 4

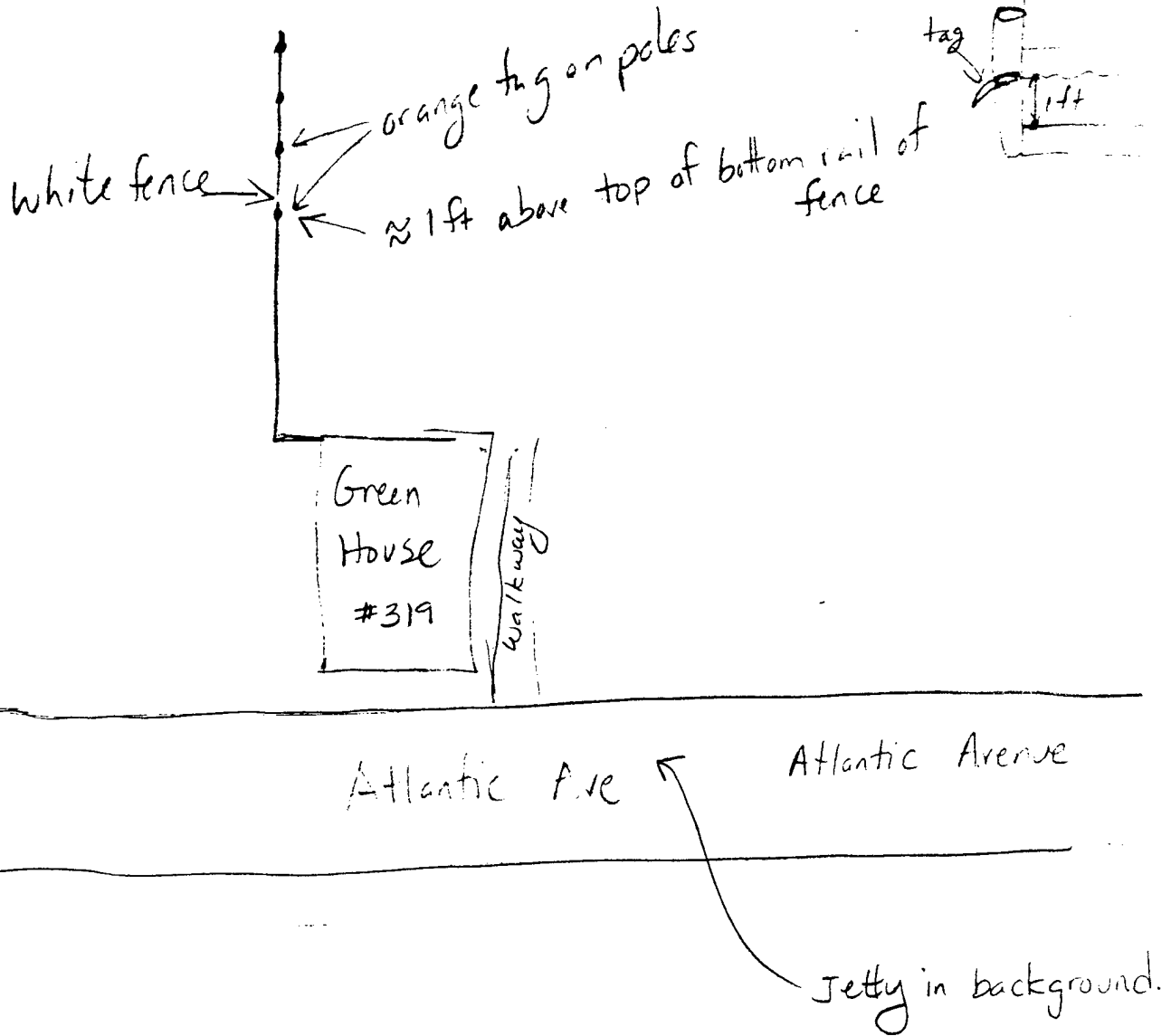
Wells, MC



Atlantic Ocean.

← Jetty
not far away.

Wells Beach.



W4

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		W/5
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Wells	ME
(Tributary of)	(City or Town)	(State)
Description of high watermark: PK nail and orange ribbon on stairs on the left side of the house. The mark is approximately 3 feet above the ground at that point.		
7 November 1991	Karen Schofield and John Yen	
(Date obtained)	(Obtained by)	
Steve Ferguson, 123 Ocean Avenue		
(Name and address of person pointing out high watermark)		
Debris line in back yard of neighbor substantiates point on stairs		
(If not pointed out, how obtained?)	(Date and hour of high watermark)	
(Elev. of high watermark)	(Datum)	(Benchmark referred to)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
(Elevation determined by)	(Date)	(Order of levels)
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)	

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Mostly Confident Point. Location given by owner's son. However, close distinct debris line in neighbor's yard which is very confident.



Ocean view st

MOODY POINT

clothesline

Gray
house

White
house

White
house
#123

deck

Green
Shingle
House

← ~ 3 ft above
ground
PK nail & orange
ribbon.

Ocean Ave

Atlantic Ocean

W 5

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean W/6
(Name of River, Bay or Harbor) (Miles from Mouth) (Watermark No.)
Wells
(Tributary of) (City or Town) (State)

Description of high watermark: Ribbon on stop sign on right side of road
at the end of Atlantic Avenue before the parking lot and the Ogunquit Waste Water
Treatment Plant. Mark is approx. 1 foot above ground at the stop sign.

7 November 1991 Karen Schofield and John Yen
(Date obtained) (Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?) (Date and hour of high watermark)

(Elev. of high watermark) (Datum) (Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface) (Date & Hour) (Class. of watermark)

(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Beach access was a low point and parking lot appeared to have been filled
with sand, debris and water. Also marsh appeared to have debris. Debris line
on the road too. (Pile of plowed sand in parking lot.)

WATERMAN 100 0

10000, 100



Marshland

Oceanit Waste Water Treatment Plant

Parking Lot

Gray
shingle
House

Brown
House
1775

stop sign

ribbon approx 1 ft
above ground

Publicway

wooden fence

chain link

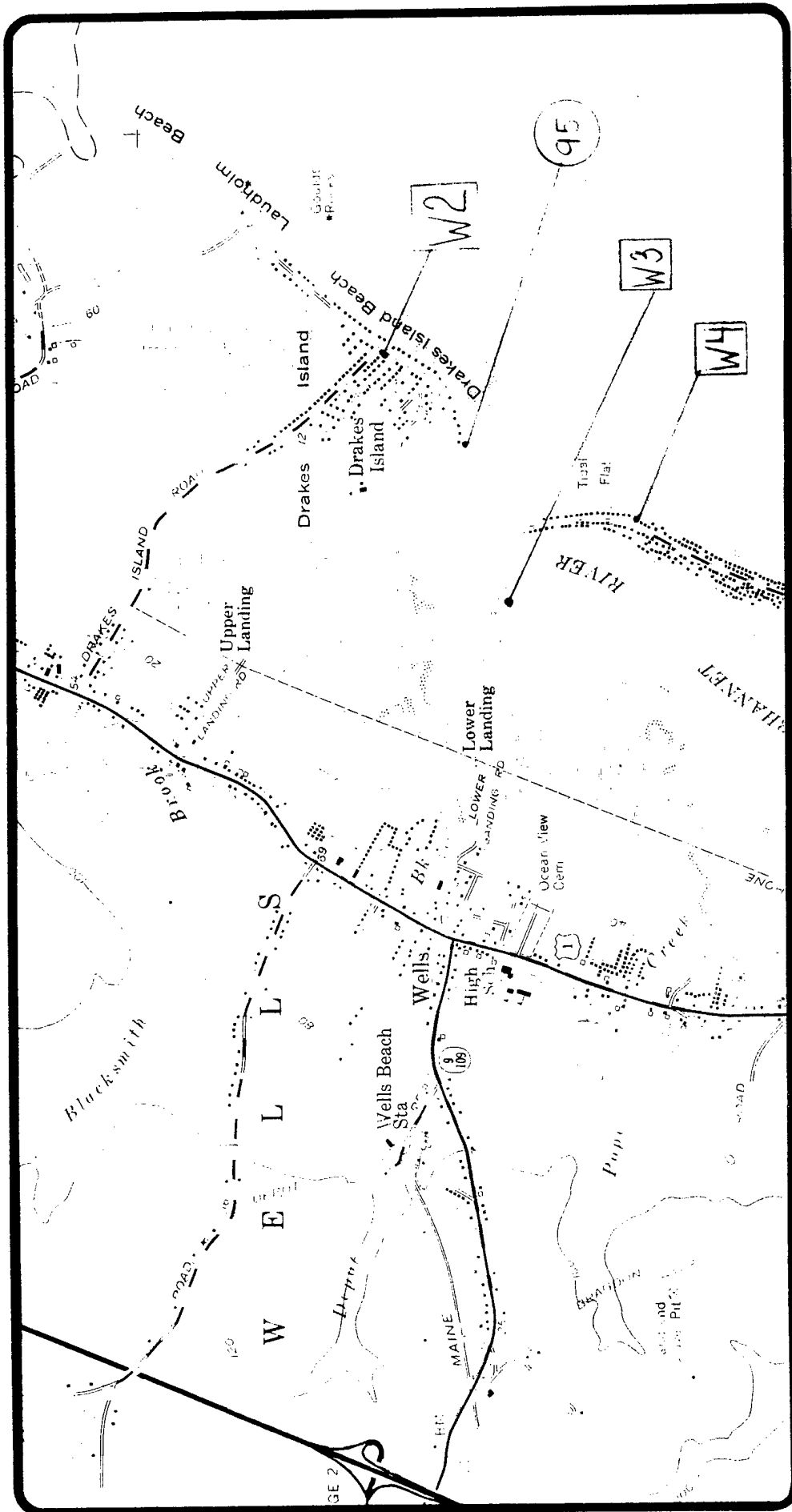
Blue & Brown
House

Gray
House

Wells Beach

Atlantic Ocean

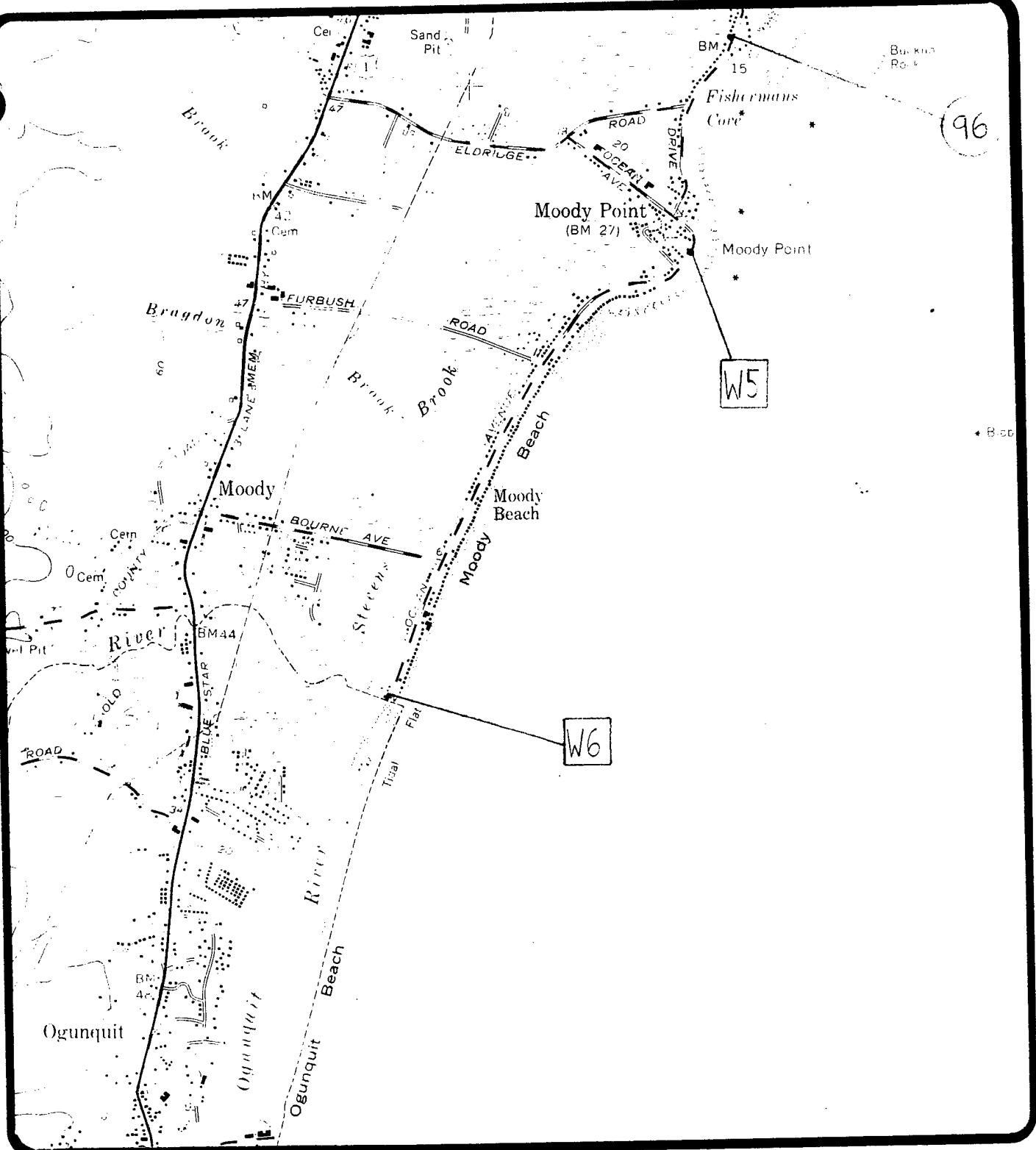
W 6



US Army Corps
of Engineers
New England Division

High Water Mark Location Map
Halloween Storm, October, 1991 □ - 1991 ○ - 1978

USGS 7.5 Minute Quadrangle - Wells, Maine



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Wells, Maine

□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers

APPENDIX
KENNEBUNK, MAINE

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean
(Name of River, Bay or Harbor)
(Miles from Mouth)
Kennebunk
(City or Town)
KB1
(Watermark No.)
ME
(State)
(Tributary of)

Description of high watermark: Orange ribbon on "No Parking" sign in front
of fence between a gray and a green house on right side of road across from
playground. Mark is approximately 14 inches above ground at the sign.

7 November 1991
(Date obtained)
Karen Schofield and John Yen
(Obtained by)
Mrs. William Ward
7 Lords Point
(Name and address of person pointing out high watermark)
Debris line along fence and
woman said road was flooded.
(If not pointed out, how obtained?)
(Date and hour of high watermark)

(Elev. of high watermark) (Datum) (Benchmark referred to) (Datum)
(Elevation of high watermark above water surface) (Date & Hour) (Class. of watermark)
(Elevation determined by) (Date) (Order of levels)
(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

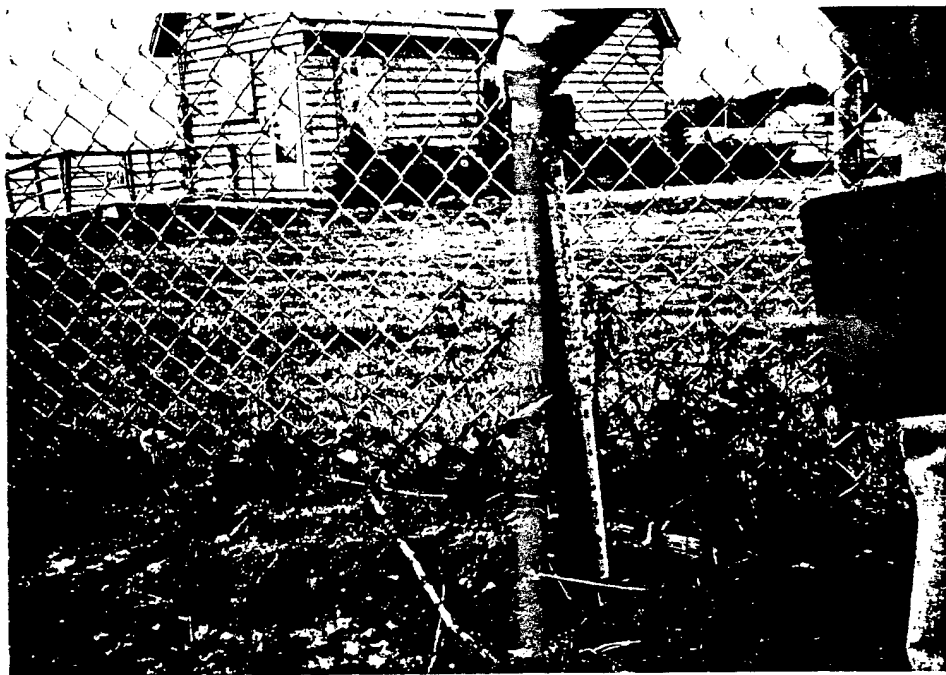
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Confident Point - Eyewitness confirmed road was flooded backing up the
distinct debris line on fence.

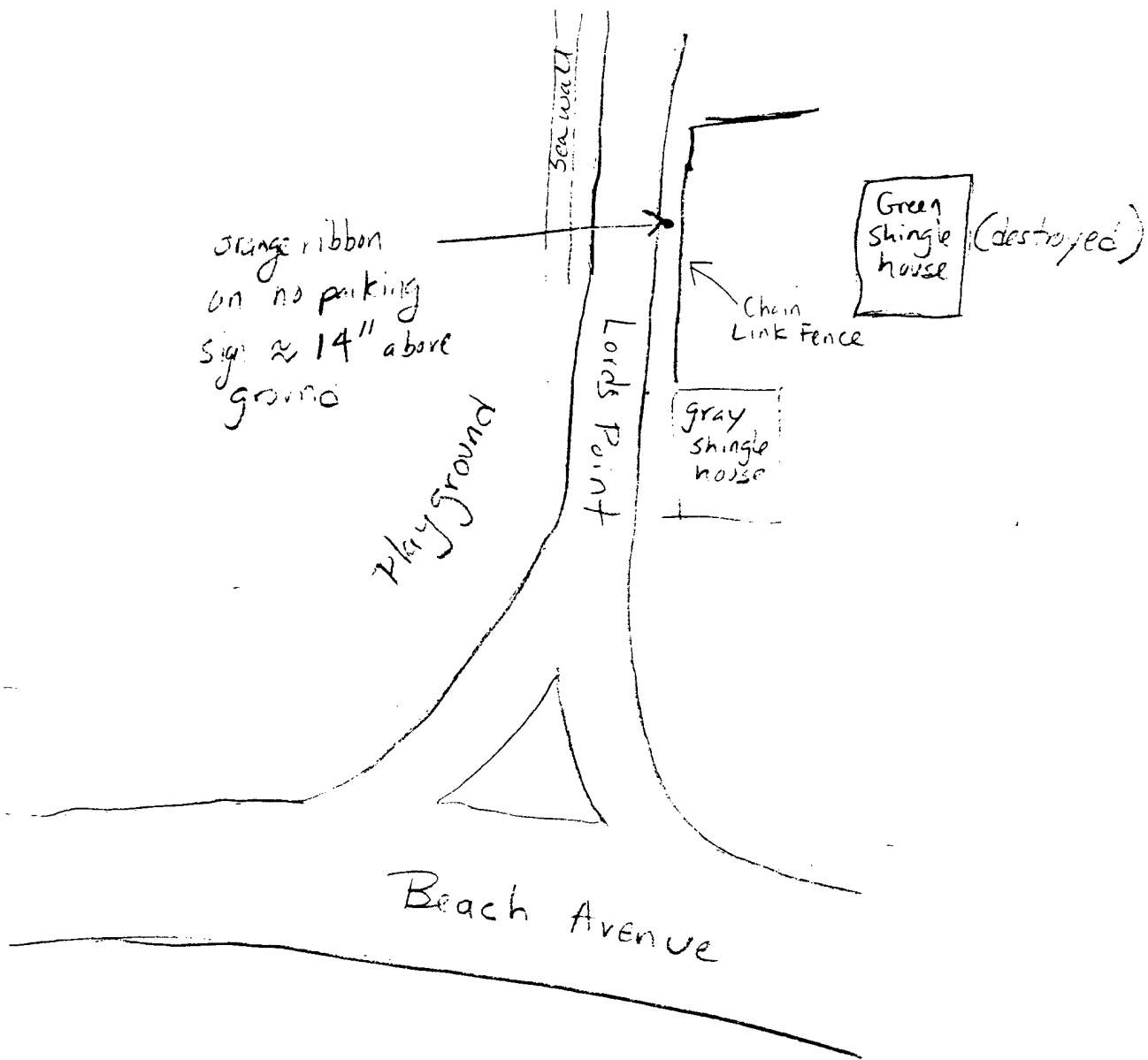
Watermark No. 1A

NEWBURN, IL

1/10/11



7



KB 1

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New England Division, Corps of Engineers
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Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean KB2
(Name of River, Bay or Harbor) (Miles from Mouth) (Watermark No.)
(Tributary of) Kennebunk ME
(City or Town) (State)

Description of high watermark: Orange ribbon on white fence in back of
yellow house approximately 9 inches above the ground. (See drawing)

6 November 1991

(Date obtained)

Karen Schofield and John Yen

(Obtained by)

(Name and address of person pointing out high watermark)

Debris line along grass in the area
and on the fence.

(If not pointed out, how obtained?)

(Date and hour of high watermark)

NOTE: Point is a little questionable. Owner not there. Renter next door
allowed us to tag fence but not very cooperative. Access point may not be possible.

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Not very confident point. May just be overtopping waves from seawall.

Seawall seems higher than debris line.

www.mhfi.ir



white house.
(blue shutters)

was distinct
debris line

Gray
House

white fence

yellow
house
#2

ribbon on
fence approx 9 inches
above ground

washed out
driveway

Boothby Rd.

Beach Avenue

Kennebunk Beach

KB2

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean

(Name of River, Bay or Harbor)

(Miles from Mouth)

KB3
(Watermark No.)

Kennebunk

ME

(City or Town)

(State)

(Tributary of)

Description of high watermark: (From front) PK nail with orange ribbon on left side of house (#102) on left side of white basement door approximately 22 inches above the bottom of the door.

6 November 1991

(Date obtained)

Ken Schofield and John Yen

(Obtained by)

Mrs. William Hotra, 102 Beach Avenue (Kennebunk Beach)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Fairly confident point. Definite flooding and distinct line. However, seawall seems almost level if not a little higher than debris line. May be overtopping or may be from a little lower point in seawall farther down the beach.

Kennebunk Beach

Beach Avenue

Driveway

New
Brown
House

#102

Brown weathered
shingle
house

white basement
door

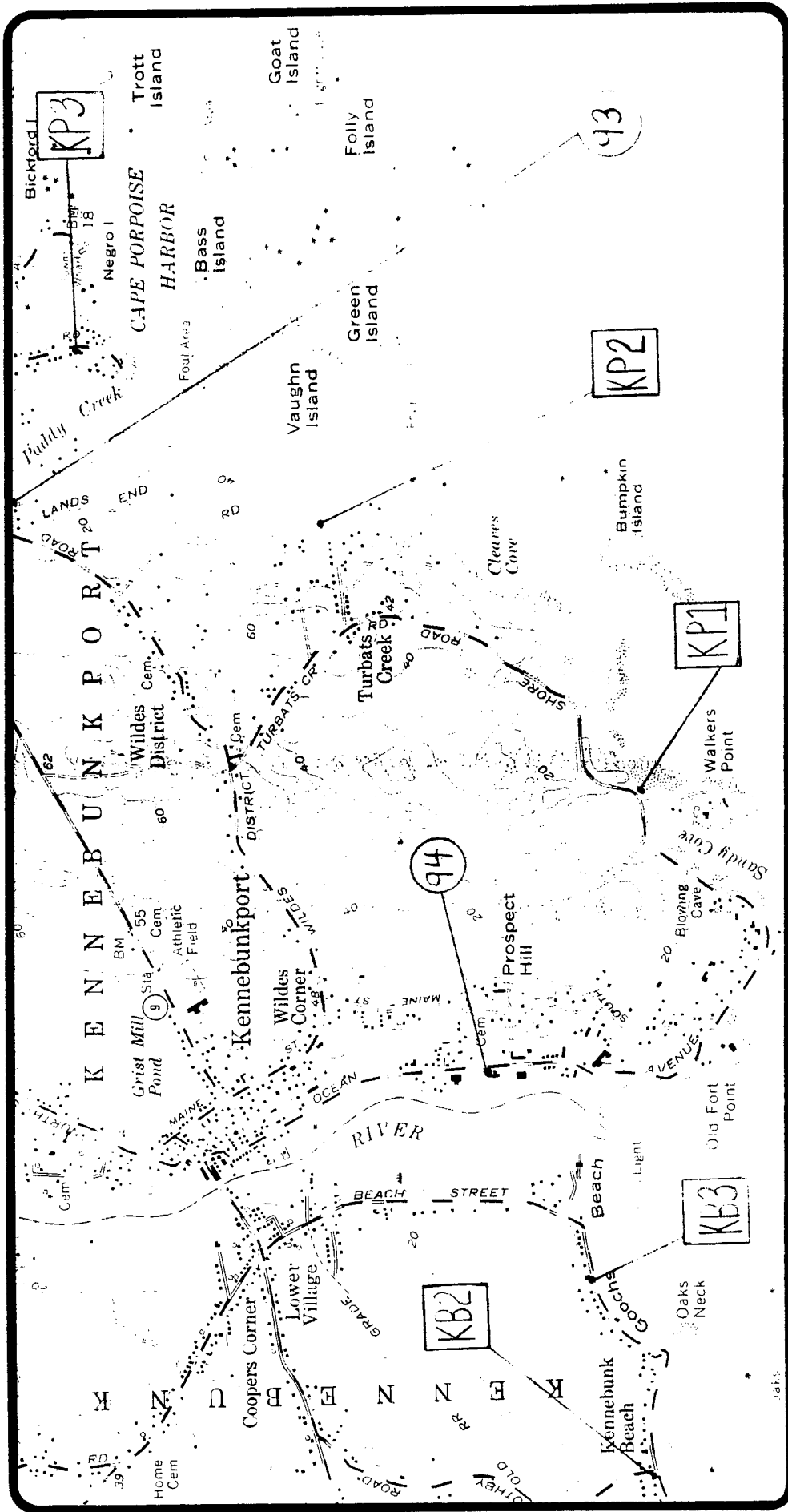
PK Nail with
orange ribbon approx.
22 inches from bottom of door.

Gray
House

Pole # J49

Roadway

KB3



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Kennebunkport, Maine

☐ - 1991 ☐ - 1978



US Army Corps
of Engineers
New England Division

APPENDIX
KENNEBUNKPORT, MAINE

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean
(Name of River, Bay or Harbor) (Miles from Mouth) KPI
(Watermark No.)
(Tributary of) Kennebunkport ME
(City or Town) (State)

Description of high watermark: Ribbon on yellow "Hidden Drive" sign on left side
of street. Ribbon is approximately 22 inches above the ground. The sign is around
the corner after Bush's house.

6 November 1991

Karen Schofield and John Yen

(Date obtained)

(Obtained by)

(Name and address of person pointing out high watermark)
Line of debris on side of road and along brush.

Road is washed out and ocean debris within marshland.

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

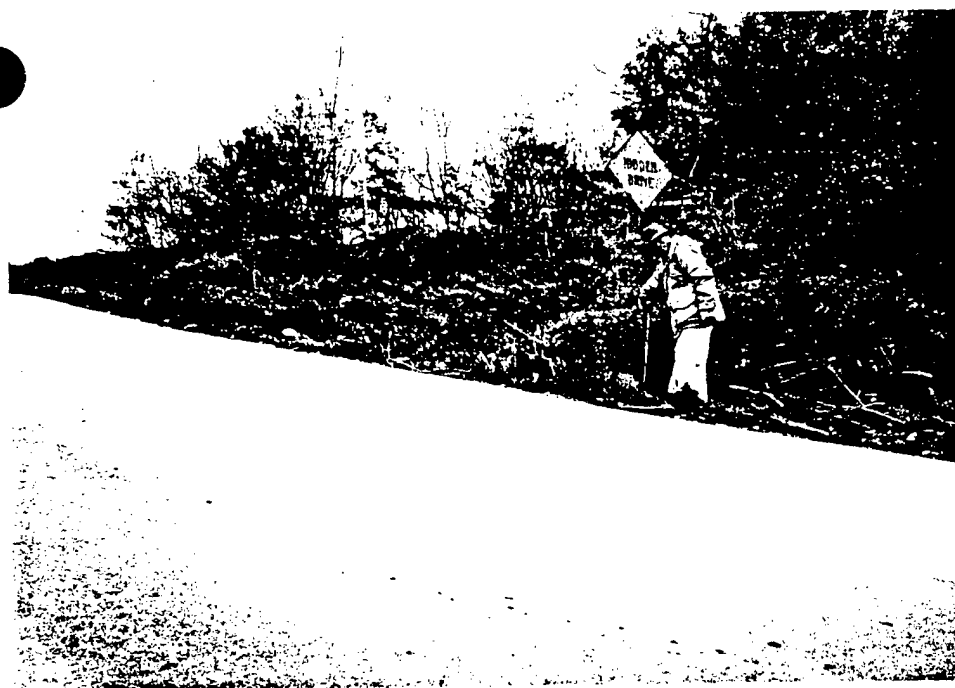
(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Confident Point. Knowledge that road was flooded backed up by marsh on other
side full of debris and a distinct line on the shoulder of the road.



TO BUSH'S
HOUSE
(Hill)



Yellow "Hidden Drive" Sign
on left side of Street around
corner. (orange ribbon approx
22 inches above ground on sign.)

Marshland
(with ocean
debris)

Shore Rd

Entrance
with
Gravidhouse

little hill
on corner

Washed out
Road

Rocks

Rocks

KPI

Walker's
Point

Bush's House

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Turbats Creek
(Name of River, Bay or Harbor)
(Miles from Mouth)
Kennebunkport
(City or Town)
ME
(State)
(Tributary of)

Description of high watermark:
of the house near the stairs. Orange ribbon also marks location. Mark is approx.

6 November 1991

Karen Schofield and John Yen

(Date obtained)

(Obtained by)

Mr. William Fick (at the end of road to Shawmut Inn)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

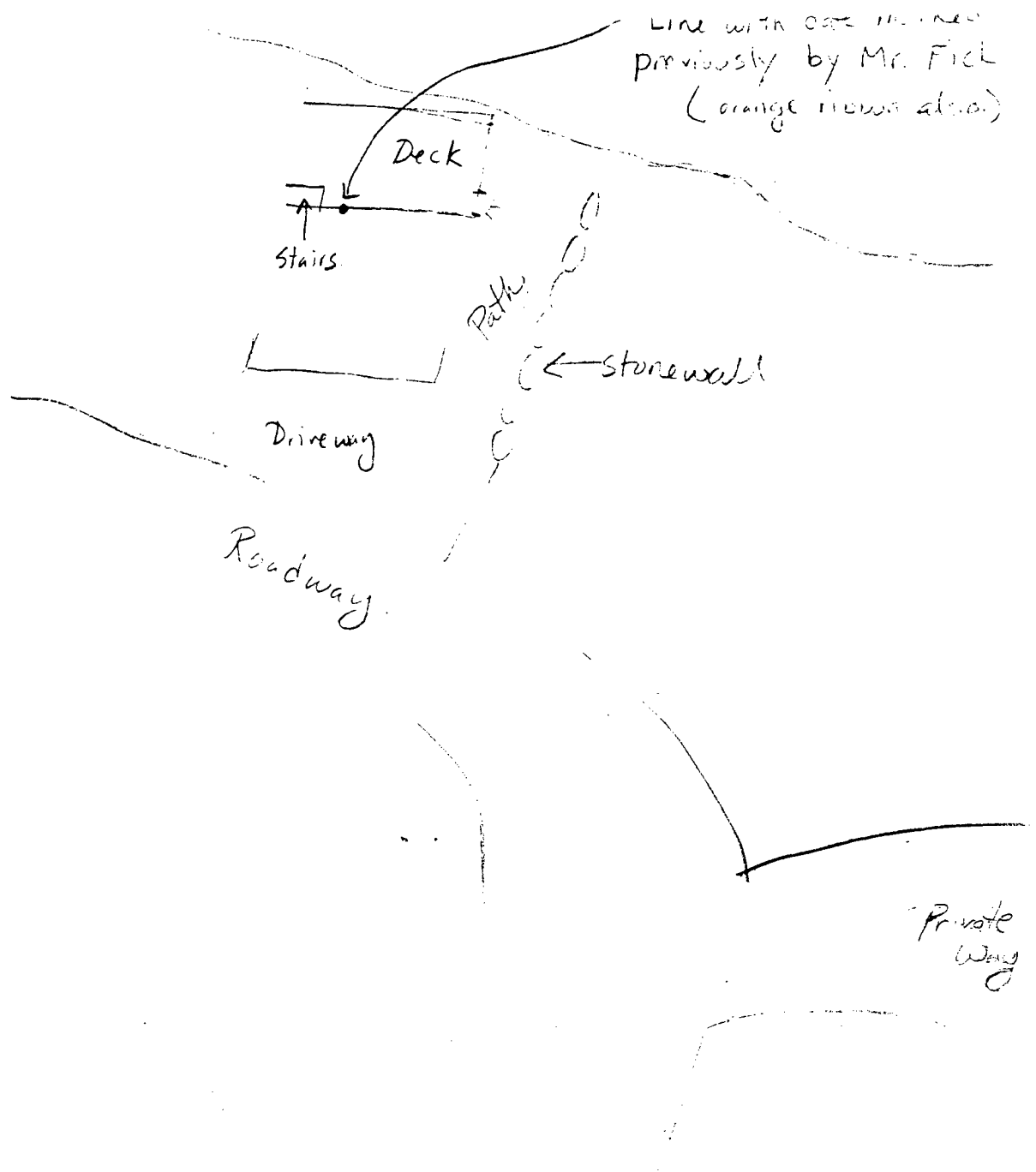
(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Confident Point. Marked and dated by owner. Substantiated by washed out roads and marshland in area.





KP 2

Shawmut Inn
↙

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New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Cape Porpoise Harbor
(Name of River, Bay or Harbor) (Miles from Mouth) KP 3
(Watermark No.)
(Tributary of) Kennebunkport ME
(City or Town) (State)

Description of high watermark: Hydrant has orange ribbon around it, BUT the
high water mark is approximately 1 inch below bottom of hydrant (not where
ribbon indicates). Ribbon only to show hydrant.

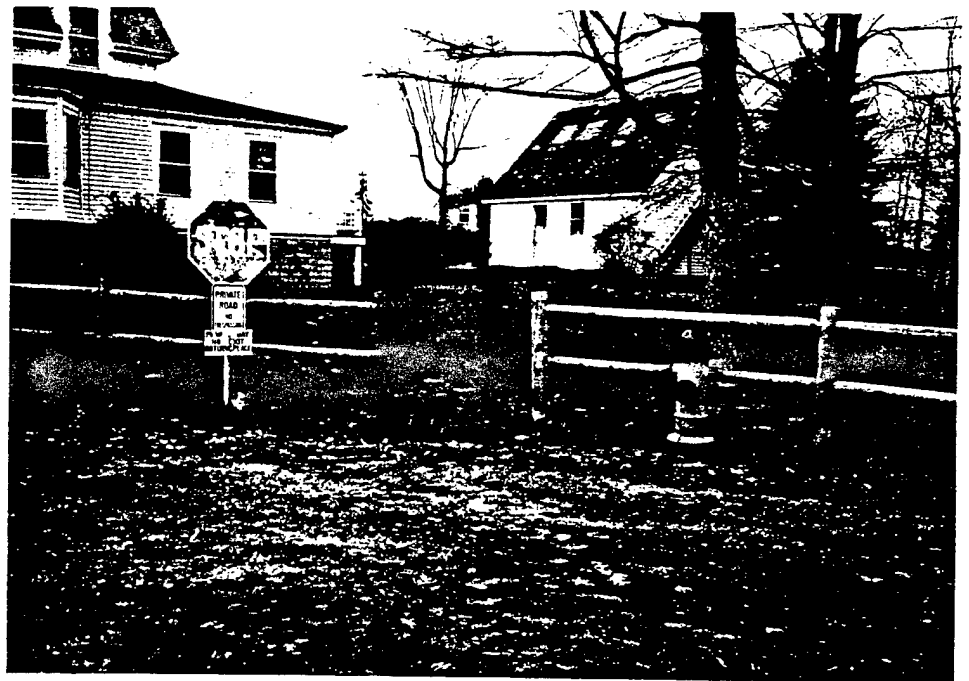
6 November 1991 Karen Schofield and John Yen
(Date obtained) (Obtained by)

(Name and address of person pointing out high watermark)
Distinct debris line
(If not pointed out, how obtained?) (Date and hour of high watermark)

(Elev. of high watermark) (Datum) (Benchmark referred to) (Datum)
(Elevation of high watermark above water surface) (Date & Hour) (Class. of watermark)
(Elevation determined by) (Date) (Order of levels)
(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Confident Point. Distinct debris line and indications road was flooded.
Road is near the harbor.



Highwater at debris line
Below hydrant

#1259
(says Bull)

White house

Stop sign.
"Private Way"

wooden fence

Yellow Hydrant marked with orange ribbon. BUT High water was approx 1 inch below bottom of hydrant.

Cape
Porpoise
Harbor

Pole #
45
J&W

Langsford Rd

Gray House
(says
Matthews)

KP3

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England Division, Corps of Engineers
424 Trapelo Road
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean
(Name of River, Bay or Harbor)
(Tributary of)

(Miles from Mouth)
Kennebunkport
(City or Town)

KP4
(Watermark No.)
ME
(State)

Description of high watermark: PK nail with orange ribbon to the left of red basement door. Nail is approximately 8 inches above ground.

6 November 1991

Karen Schofield and John Yen

(Date obtained)

(Obtained by)

Ben Tito, Marshall's Point

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to)	(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

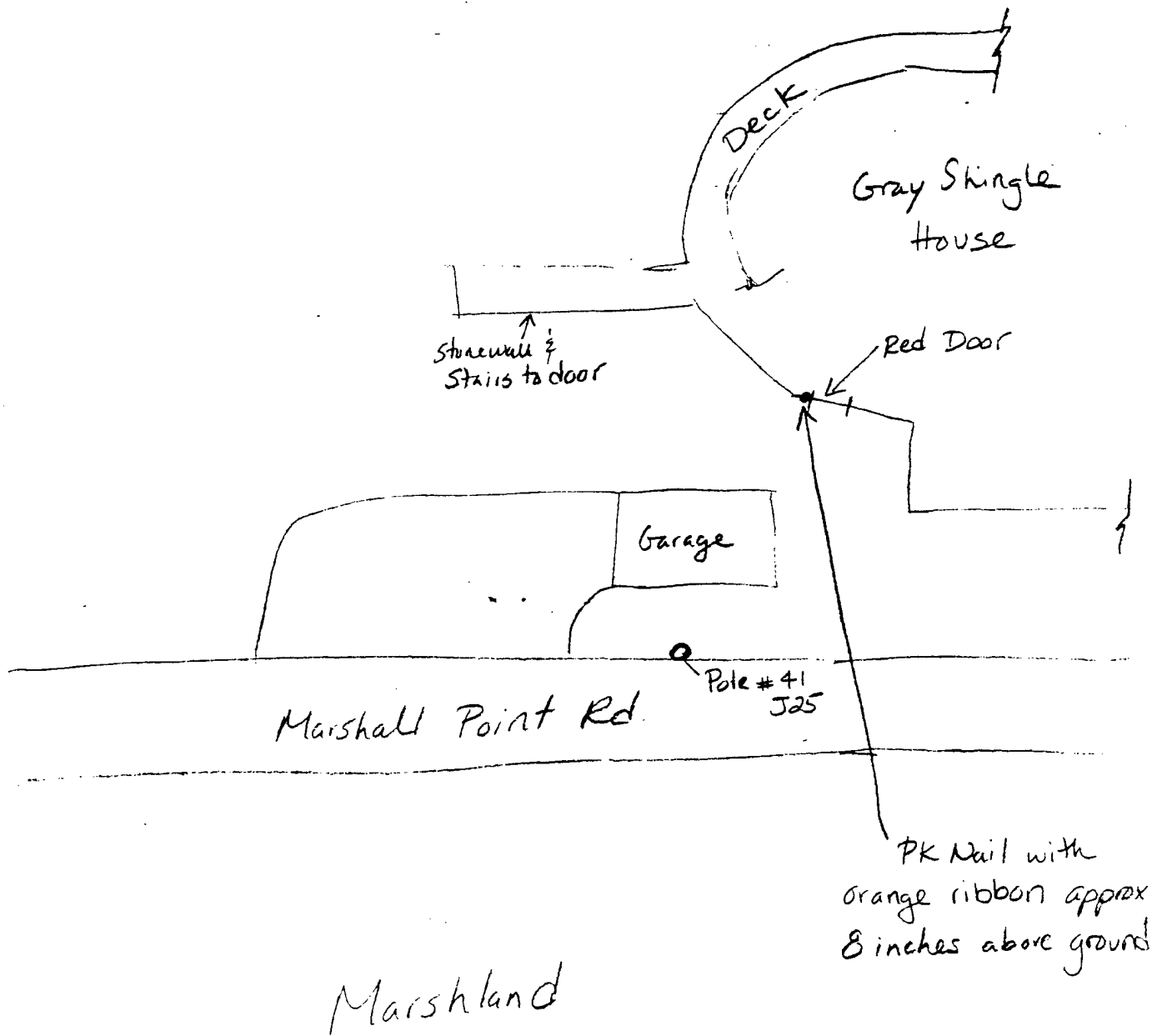
NOTE: Mostly Confident Point. Flooded from marshland on opposite side of road.

NOTE: Mostly similar.

Distinct line. However, overtopping from other side has slight chance of affecting mark.



Atlantic Ocean



KP4

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Gooseface Bay

(Name of River, Bay or Harbor)

(Miles from Mouth)

KP5
(Watermark No.)

Kennebunkport

(City or Town)

ME

(State)

(Tributary of)

Description of high watermark:

PK nail and orange ribbon on fence beside house

(#301) (gray shingle). Mark is approximately 9 inches above bottom of fence.

(See map for location)

6 November 1991

(Date obtained)

Karen Schofield and John Yen

(Obtained by)

(Name and address of person pointing out high watermark)

Debris line on fence and in the area.
Access to beach allowed water into low area.

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

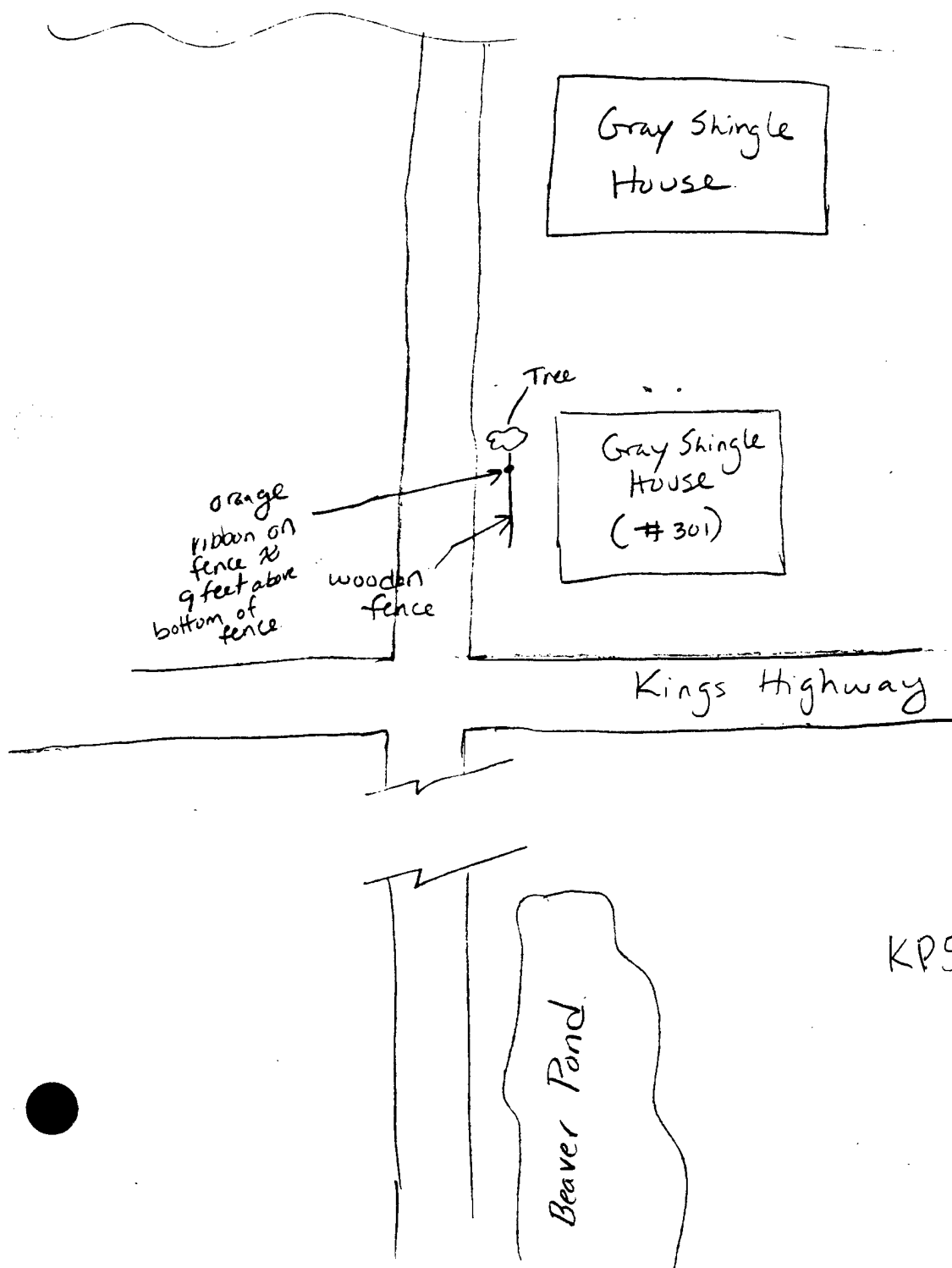
NOTE: Fairly Confident Point. Debris line distinct, however, beach seems almost same height or a little higher than mark, although sand may have been plowed back already.

Watermark No. 1

Watermark No. 2



Goose Rocks Beach.



HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

FORM 203
NED 1 APR 78

Highwater Mark #8

Kennebunkport, ME.



From
Marsh.

Garden

Orange Stake
(high water is at top of
stake \approx 2" above ground
at pole)

wooden
fence

Blue
House
#160

Driveway

White
House
(Charles Wilson)

Kings Highway

KP6

Goose Rocks
Beach

Water mark 140. 1

10/20/2015



Tan House
#158

Blue
House
#160

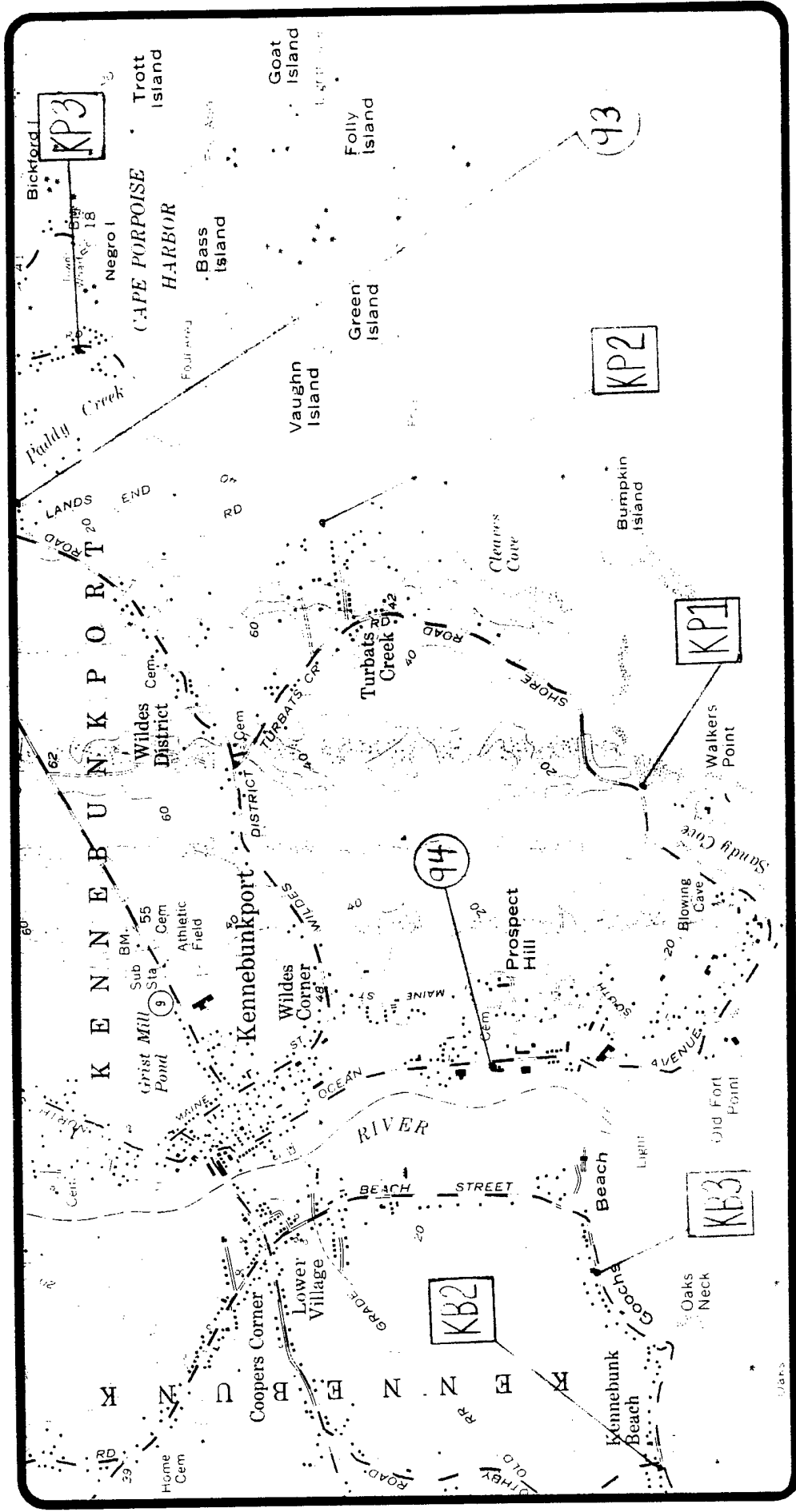
Pole #591
(Orange Ribbon $\approx 5''$ above ground)

Kings Highway.

Access to Beach

KP7

Goose Rocks Beach



US Army Corps
of Engineers
New England Division

High Water Mark Location Map Halloween Storm, October, 1991

□ - 1991

○ - 1978

USGS 7.5 Minute Quadrangle - Kennebunkport, Maine

APPENDIX

SEABROOK, NEW HAMPSHIRE

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Mill Creek	2	SB-2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
Hampton River	Seabrook	NH
(Tributary of)	(City or Town)	(State)

Description of high watermark: Approximately 120 feet north of the Causeway
Bridge there is an orange mark on the road; three feet off the road, to the
east, is an orange stake that marks highwater.

11/6/92

(Date obtained)

Chris Hatfield and Wendall Mah

(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

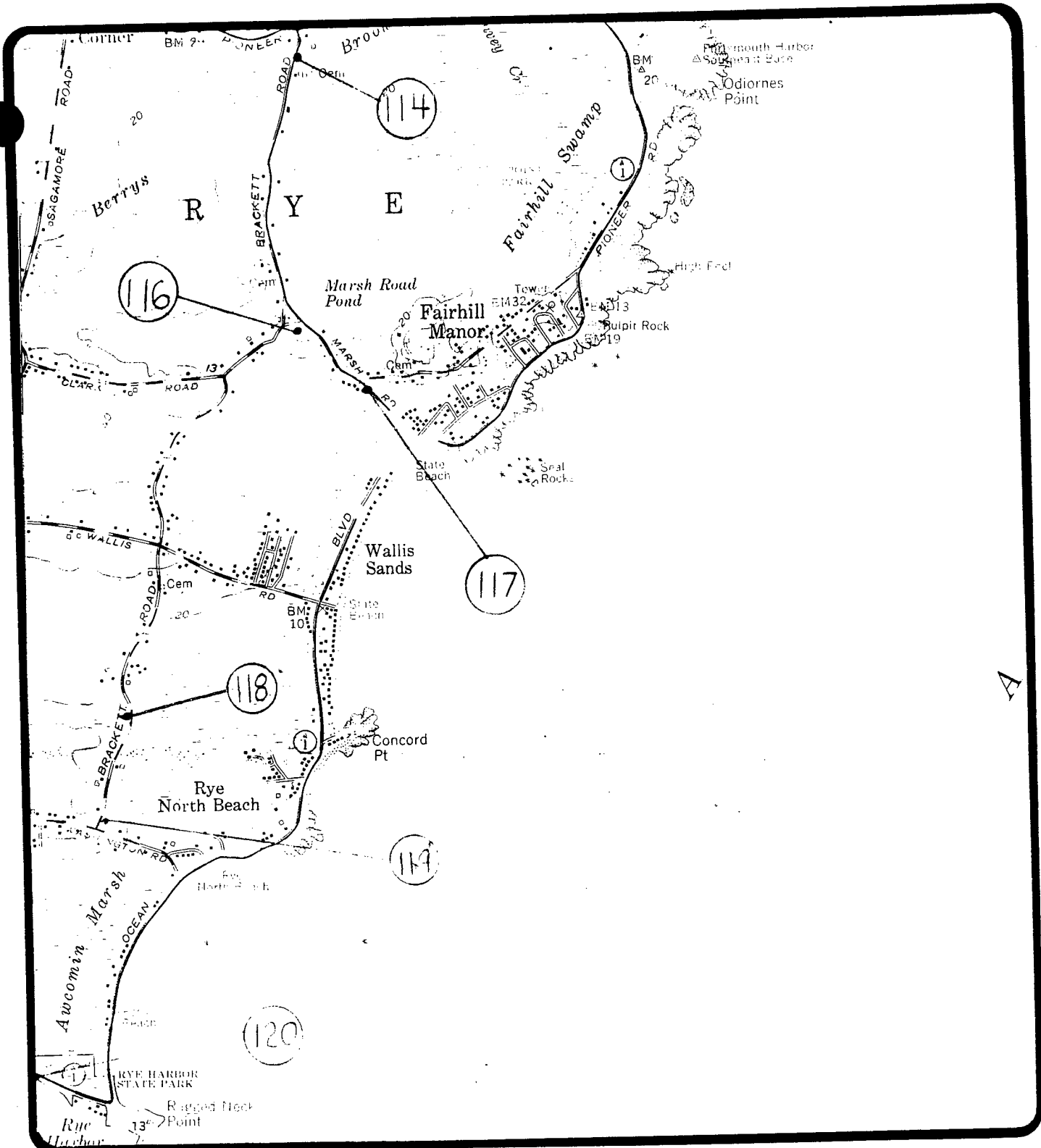
(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)



High Water Mark Location Map Halloween Storm, October, 1991

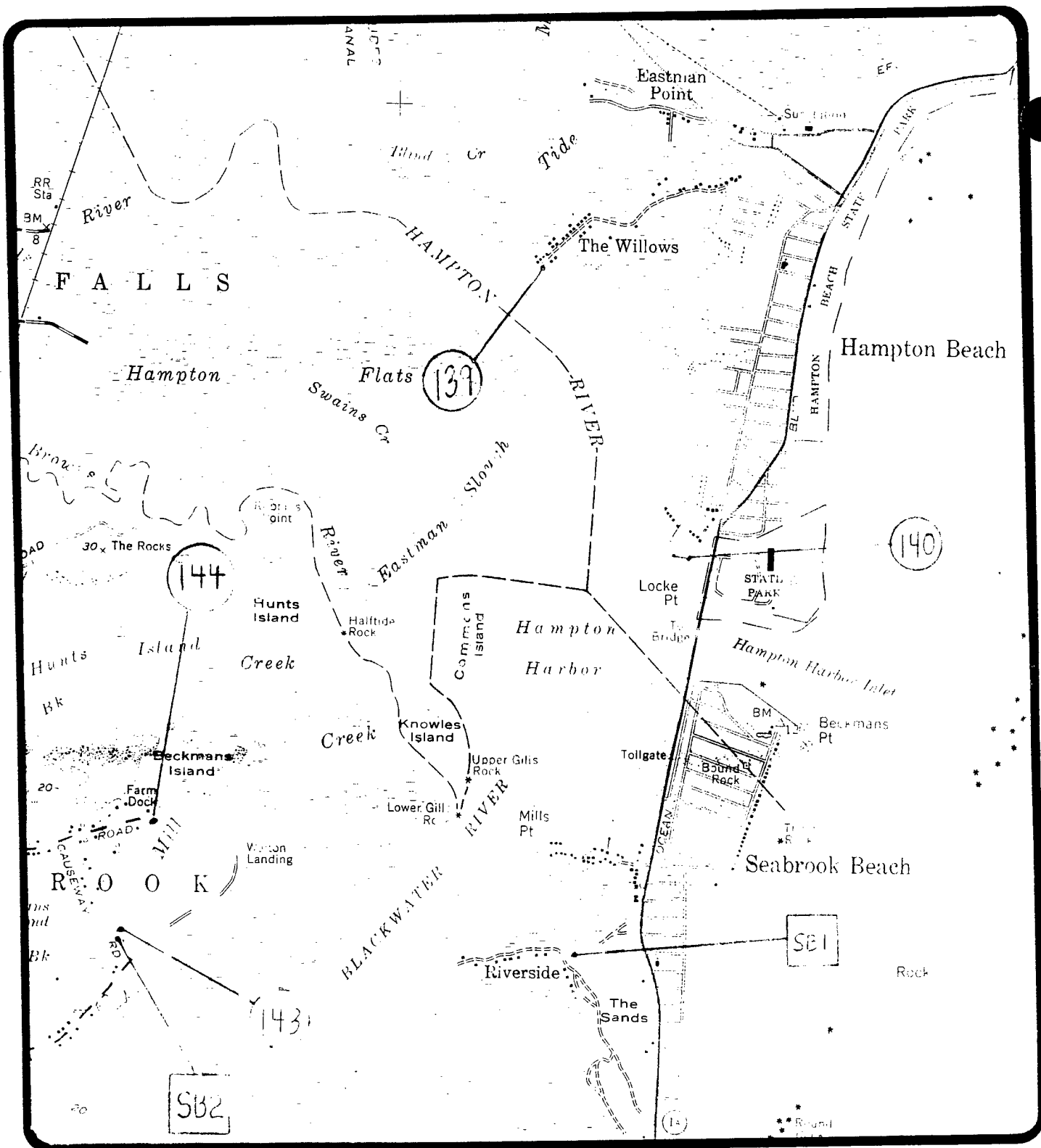
USGS 7.5 Minute Quadrangle - Kittery, ME.-N.H.

□ - 1991 ○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Hampton, N.H.

□ - 1991 ○ - 1978

New England Division



US Army Corps
of Engineers

APPENDIX

SALISBURY TO ROCKPORT, MASSACHUSETTS

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Black Rock Creek</u> (Name of River, Bay or Harbor)	<u>1</u> (Miles from Mouth)	<u>S-1</u> (Watermark No.)
<u>Merrimack River</u> (Tributary of)	<u>Salisbury</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: Approx. 300' south of Salisbury State Park
tollgate an orange dot on the side of road marks the spot to go off the road. The
highwater point is about 25' to the west of the side of the road.

<u>11/6/91</u> (Date obtained)	<u>Chris Hatfield and Wendell Mah</u> (Obtained by)
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(Name and address of person pointing out high watermark)

<u>(If not pointed out, how obtained?)</u>	<u>(Date and hour of high watermark)</u>
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<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>
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<u>(Elevation of high watermark above water surface)</u>	<u>(Date & Hour)</u>	<u>(Class. of watermark)</u>
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<u>(Elevation determined by)</u>	<u>(Date)</u>	<u>(Order of levels)</u>
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<u>(Nearest dam upstream or downstream)</u>	<u>(Latitude and longitude of watermark)</u>
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Black Rock Creek		S-2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Salisbury	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Orange stake 30' off N.side of road to
parking area near Black Rocks, 100' before parking lot

11/6/91	Chris Hatfield and Wendell Mah
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

_____ (Name of River, Bay or Harbor)	_____ (Miles from Mouth)	_____ S-3 (Watermark No.)
_____ (Tributary of)	_____ Sailsbury (City or Town)	_____ MA (State)

Description of high watermark: Orange nail in utility pole #4 on Tenth Street,
picture is near 19 Tenth Street. Nail is 9" from bottom of pole.

_____ 11/6/91 (Date obtained)	_____ Chris Hatfield and Wendell Mah (Obtained by)
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(Name and address of person pointing out high watermark)

_____ (If not pointed out, how obtained?)	_____ (Date and hour of high watermark)
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_____ (Elev. of high watermark)	_____ (Datum)	_____ (Benchmark referred to)	_____ (Datum)
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_____ (Elevation of high watermark above water surface)	_____ (Date & Hour)	_____ (Class. of watermark)
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_____ (Elevation determined by)	_____ (Date)	_____ (Order of levels)
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_____ (Nearest dam upstream or downstream)	_____ (Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Merrimack River</u> (Name of River, Bay or Harbor)	<u>3</u> (Miles from Mouth)	<u>N-1</u> (Watermark No.)
<u></u> (Tributary of)	<u>Newburyport</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: Nail placed 2 feet from bottom of utility pole
#5 across from "Captain's Quarters" restaurant (in parking lot).

<u>11/4/91</u> (Date obtained)	<u>Chris Hatfield / Wendell Mah</u> (Obtained by)
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(Name and address of person pointing out high watermark)

<u>(If not pointed out, how obtained?)</u>	<u>(Date and hour of high watermark)</u>
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<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>
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<u>(Elevation of high watermark above water surface)</u>	<u>(Date & Hour)</u>	<u>(Class. of watermark)</u>
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<u>(Elevation determined by)</u>	<u>(Date)</u>	<u>(Order of levels)</u>
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<u>(Nearest dam upstream or downstream)</u>	<u>(Latitude and longitude of watermark)</u>
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Description of high watermark: Top of granite curb in front of coast guard station.

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Merrimack River</u> (Name of River, Bay or Harbor)	<u>2</u> (Miles from Mouth)	<u>N-3</u> (Watermark No.)
<u></u> (Tributary of)	<u>Newburyport</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: Base of utility pole #63 on Water Street in
front of gray house #282.

<u>11/4/91</u> (Date obtained)	<u>Chris Hatfield/Wendell Mah</u> (Obtained by)
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(Name and address of person pointing out high watermark)

<u></u> (If not pointed out, how obtained?)	<u></u> (Date and hour of high watermark)
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<u></u> (Elev. of high watermark)	<u></u> (Datum)	<u></u> (Benchmark referred to)	<u></u> (Datum)
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<u></u> (Elevation of high watermark above water surface)	<u></u> (Date & Hour)	<u></u> (Class. of watermark)
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<u></u> (Elevation determined by)	<u></u> (Date)	<u></u> (Order of levels)
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<u></u> (Nearest dam upstream or downstream)	<u></u> (Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Description of high watermark: Toe of slope on southside of west approach, near utility pole #41; Plum Island River Bridge on plum Island Turnpike

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?) (Date and hour of high watermark)

<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Plum Island River		N-5
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Newburyport	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Opposite side of N-4 on west approach. Again directly opposite utility pole #41; marked by 3 orange painted stakes.

11/4/91	Chris Hatfield/Wendell Mah
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Merrimack River</u> (Name of River, Bay or Harbor)	<u>$\frac{1}{2}$</u> (Miles from Mouth)	<u>N-6</u> (Watermark No.)
<u></u> (Tributary of)	<u>Newburyport</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: Orange marked nail in utility pole #254-3 on
S-Street at Plum Island.

<u>11/4/91</u> (Date obtained)	<u>Chris Harfield/Wendell Mah</u> (Obtained by)
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(Name and address of person pointing out high watermark)

<u>(If not pointed out, how obtained?)</u>	<u>(Date and hour of high watermark)</u>
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<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>
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<u>(Elevation of high watermark above water surface)</u>	<u>(Date & Hour)</u>	<u>(Class. of watermark)</u>
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<u>(Elevation determined by)</u>	<u>(Date)</u>	<u>(Order of levels)</u>
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<u>(Nearest dam upstream or downstream)</u>	<u>(Latitude and longitude of watermark)</u>
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Pine Island Creek</u> (Name of River, Bay or Harbor)	<u></u> (Miles from Mouth)	<u>N-7</u> (Watermark No.)
<u></u> (Tributary of)	<u>Newburyport</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: Debris line in south side of Pine Island Road
in front of white house, possibly #93 or 94 Avery; 13 feet from old well.

<u>11/4/91</u> (Date obtained)	<u>Chris Hatfield/Wendell Mah</u> (Obtained by)
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(Name and address of person pointing out high watermark)

<u></u> (If not pointed out, how obtained?)	<u></u> (Date and hour of high watermark)
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<u></u> (Elev. of high watermark)	<u></u> (Datum)	<u></u> (Benchmark referred to)	<u></u> (Datum)
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<u></u> (Elevation of high watermark above water surface)	<u></u> (Date & Hour)	<u></u> (Class. of watermark)
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<u></u> (Elevation determined by)	<u></u> (Date)	<u></u> (Order of levels)
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<u></u> (Nearest dam upstream or downstream)	<u></u> (Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Parker River		N-8
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Newburyport	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: 73 Cottage road; (marsh solitude)
approx. 8 feet above foundation of garage.

11/4/91	Chris Hatfield/Wendell Mah
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Parker River		N-9
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Newbury	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Orange spray paint line on S.E. bridge abutment;
Parker River Bridge Rte 1A

11/4/91	Chris Hatfield/Wendell Mah
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Plum Island River		N-10
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Newbury	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Orange stake on side off Sunset Dr. (Plum
Island access Rd. 1.8 mi from maingate)

11/6/91	Chris Hatfield and Wendell Mah
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Mud Creek		Ry-1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Rowley	Ma
(Tributary of)	(City or Town)	(State)

Description of high watermark: Orange marked stake on NE side of Rte. 1A
Main St.; 500ft. from Rowley - Newbury town line, across from utility pole #162

11/4 /91	Chris Hatfield and Wendell Mah
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Eagle River</u>	<u>3</u>	<u>I-1</u>
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
<u></u>	<u>Ipswich</u>	<u>MA</u>
(Tributary of)	(City or Town)	(State)

Description of high watermark: Pink nail approximately 2 feet from the base of
pole #7 on Jeffrey's Neck Rd.

<u>11/4/91</u>	<u>Chris Hatfield and Wendell Mah</u>
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

<u>(If not pointed out, how obtained?)</u>	<u>(Date and hour of high watermark)</u>
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<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>
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<u>(Elevation of high watermark above water surface)</u>	<u>(Date & Hour)</u>	<u>(Class. of watermark)</u>
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<u>(Elevation determined by)</u>	<u>(Date)</u>	<u>(Order of levels)</u>
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<u>(Nearest dam upstream or downstream)</u>	<u>(Latitude and longitude of watermark)</u>
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Eagle River 3 I-2
(Name of River, Bay or Harbor) (Miles from Mouth) (Watermark No.)
(Tributary of) Ipswich MA
(City or Town) (State)

Description of high watermark: A colored stake and ribbon at the end of
Seaview Road. The stake is a couple of feet off of the cul-de-sac on its
western side.

11/4/91 Chris Hatfield and Wendell Mah
(Date obtained) (Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?) (Date and hour of high watermark)

(Elev. of high watermark) (Datum) (Benchmark referred to) (Datum)

(Elevation of high watermark (Date & Hour) (Class. of watermark)
above water surface)

(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Fox Creek</u> (Name of River, Bay or Harbor)	<u>2</u> (Miles from Mouth)	<u>I-3</u> (Watermark No.)
<u>Ipswich River</u> (Tributary of)	<u>Ipswich</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: Painted stake on the northside of Argilla Road
around utility pole #5/153. Mark is near bridge over Fox Creek

<u>11/4/91</u> (Date obtained)	<u>Chris Hatfield and Wendell Mah</u> (Obtained by)
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(Name and address of person pointing out high watermark)

<u>(If not pointed out, how obtained?)</u>	<u>(Date and hour of high watermark)</u>
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<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>
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<u>(Elevation of high watermark above water surface)</u>	<u>(Date & Hour)</u>	<u>(Class. of watermark)</u>
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<u>(Elevation determined by)</u>	<u>(Date)</u>	<u>(Order of levels)</u>
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<u>(Nearest dam upstream or downstream)</u>	<u>(Latitude and longitude of watermark)</u>
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Labor Vain Creek		I-5
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
Ipswich River	Ipswich	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Orange mark nail in tel. pole #41 on Labor
Vain Rd 2 feet from bottom of pole, 2nd to last pole before bridge on southside
of the Rd.

11/6/91	Chris Hatfield and Wendell Mah
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Essex River		E-1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Essex	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Pink marked nail in tel. pole #288, Main St. rte. 133 near
Callahan's restaurant parking, nail is approx. 2' from bottom.

11/4/91 Chris Hatfield and Wendell Mah

(Date obtained) (Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?) (Date and hour of high watermark)

(Elev. of high watermark) (Datum) (Benchmark referred to) (Datum)

(Elevation of high watermark above water surface) (Date & Hour) (Class. of watermark)

(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Essex River		E-2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Essex	MA
(Tributary of)	(City or Town)	(State)
Description of high watermark: A pink nail mark in utility pole # 744 about two feet from its base. The pole is located on Robins Island Rd. in front of resident #12		
11/4/91	Chris Hatfield and Wendell Mah	
(Date obtained)	(Obtained by)	
(Name and address of person pointing out high watermark)		
(If not pointed out, how obtained?)	(Date and hour of high watermark)	
(Elev. of high watermark)	(Datum)	(Benchmark referred to)
(Datum)		
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
(Elevation determined by)	(Date)	(Order of levels)
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)	

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Jones River	2	G-2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
Annisquam	Gloucester	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: ^{Pl} ~~Pink~~ nail marker about 2' from base of
utility pole #7248 on Causeway Street. The pole is located across from
Don Sudbay Buick Oldsmobile.

11/4/91	Chris Hatfield and Wendall Mah
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Mill River
(Name of River, Bay or Harbor)

1
(Miles from Mouth)

C-3
(Watermark No.)

(Tributary of)

Gloucester
(City or Town)

MA
(State)

Description of high watermark: At the intersection of Rt. 127 and Hodgkins St.

High water mark located on utility pole #181 about 1-2' from the base (near granite memorial).

11/5/91
(Date obtained)

Chris Hatfield and Wendell Mah
(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark above water surface)

(Date & Hour) (Class. of watermark)

(Elevation determined by)

(Date) (Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Lobster Cove</u> (Name of River, Bay or Harbor)	<u>1</u> (Miles from Mouth)	<u>G-4</u> (Watermark No.)
<u></u> (Tributary of)	<u>Gloucester</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: White house behind the Annisquam Village
Church on Leonard Street. High water mark begins about 16" below the
foundation line on the houses west side

<u>11/5/91</u> (Date obtained)	<u>Chris Hatfield and Wendell Mah</u> (Obtained by)
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(Name and address of person pointing out high watermark)

<u>(If not pointed out, how obtained?)</u>	<u>(Date and hour of high watermark)</u>
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<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>
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<u>(Elevation of high watermark above water surface)</u>	<u>(Date & Hour)</u>	<u>(Class. of watermark)</u>
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<u>(Elevation determined by)</u>	<u>(Date)</u>	<u>(Order of levels)</u>
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<u>(Nearest dam upstream or downstream)</u>	<u>(Latitude and longitude of watermark)</u>
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

next to Hogkins Cove
(Name of River, Bay or Harbor)
(Miles from Mouth)
(Tributary of)
Gloucester
(City or Town)
G-5
(Watermark No.)
MA
(State)

Description of high watermark: Orange paint mark on rock next to channel
on Colburn Avenue. The mark is about 20' from utility pole #2 on Colburn Avenue.

11/5/91

(Date obtained)

Chris Hatfield and Wendell Mah

(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Marsh behind Good Harbor Beach		G-6
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Gloucester	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Orange mark nail in pole # 7591 on Rte. 127A
west on westbound side about guard rail level.

11/5/91	Chris Hatfield and Wendell Mah
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Description of high watermark: High water mark is about 1' below base of tree (see picture) at entrance to Eastern Point Light Station. Tree is just to the left inside entrance; in front of commemorative bell.

(Name and address of person pointing out high watermark)

<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>

(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Smith Cove		G-8
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Gloucester	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Orange stake on top of bank between revet-
ment and parking lot 4' off sidewalk

11/5/91	Chris Hatfield and Wendell Mah
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Back Bay of Annisquam River
(Name of River, Bay or Harbor)

$\frac{1}{2}$
(Miles from Mouth)

G-0
(Watermark No.)

(Tributary of)

Gloucester
(City or Town)

MA
(State)

Description of high watermark: Orange nail marker at the bottom of
utility pole #465 on Stuart Rd., Gloucester. The pole is at the bend in the
road.

11/5/91

(Date obtained)

Chris Hatfield and Wendell Mah

(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Freshwater Cove

G-10

(Name of River, Bay or Harbor)

(Miles from Mouth)

(Watermark No.)

Gloucester Harbor

Gloucester

MA

(Tributary of)

(City or Town)

(State)

Description of high watermark:

Proceed north on Dolliver Neck Rd.

at the end of the Old House Cove Seawall, go 50' to the west into the marsh.

Nailed ribbon is at the base of an old leaning tree.

11/5/91

Chris Hatfield and Wendell Mah

(Date obtained)

(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Folly Cove
(Name of River, Bay or Harbor)
3/4 Mi. from end of cove
(Miles from Mouth)
R-1
(Watermark No.)
Rockport
(City or Town)
MA
(State)
(Tributary of)

Description of high watermark: Orange paint mark on stake, 50' from N.E.
stone wall of entrance and 50' from pole #1702 of Folly Cove Pier Restaurant
parking.

11/5/91

(Date obtained)

Chris Hatfield and Wendell Mah

(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Rockport	$\frac{1}{4}$	R-2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Rockport	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Orange tape and nail in utility pole #1002 on
"T" pier; across from the Rockport Forest Fire Dept.
The mark is approx. 2' from the base of the pole.

11/5/91	Chris Hatfield and Wendell Mah
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
---------------------------	--------	-------------------

(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Saratogo Creek		R-3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Rockport	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: orange paint mark on west end of north abutment
of Saratogo Creek Bridge.

11/5/91	Chris Hatfield and Wendell Mah
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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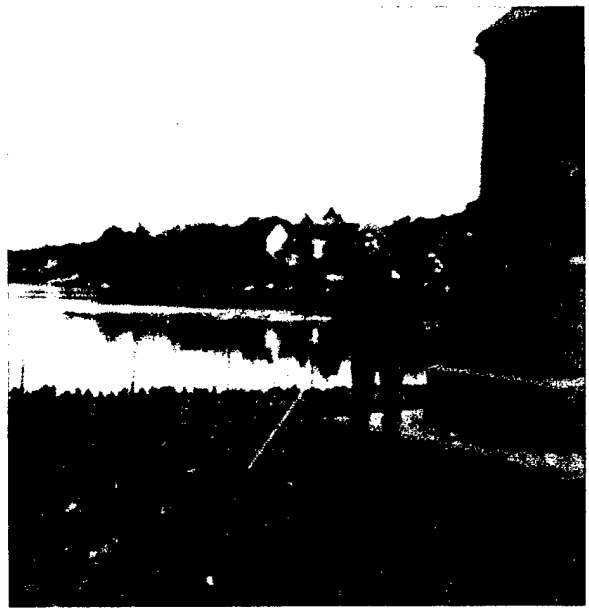
(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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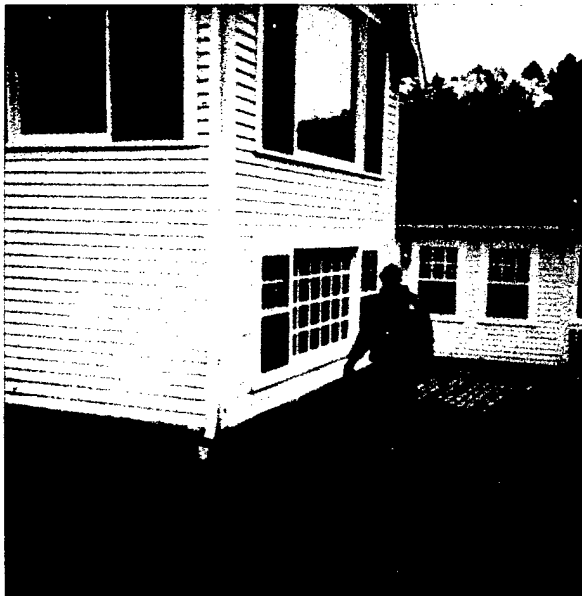
Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)



G-1



G-3



G-4



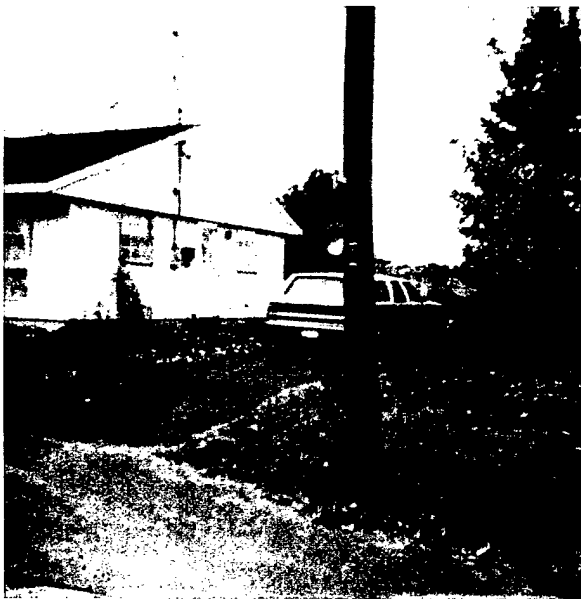
G-6



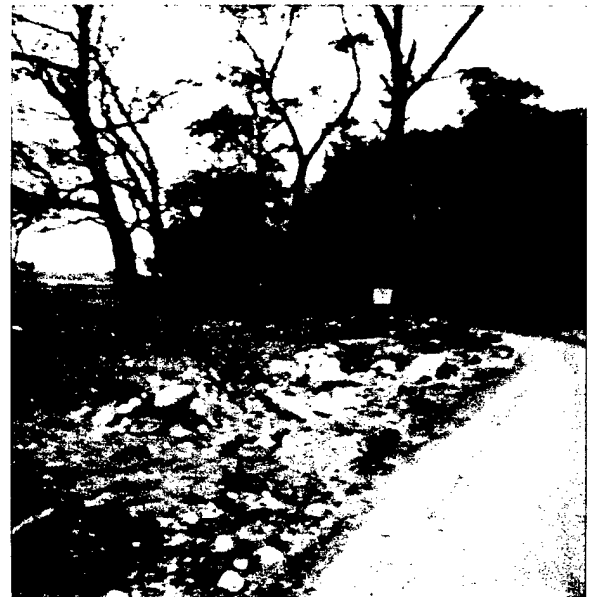
G-7



G-8



G-9



G-10



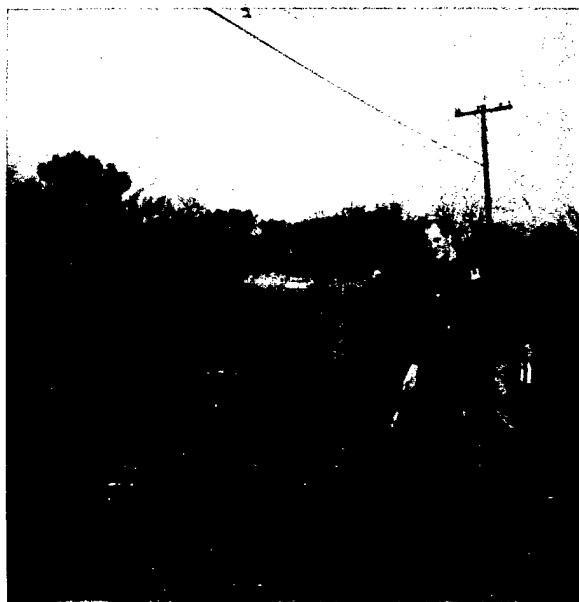
I-1



I-4



I-5



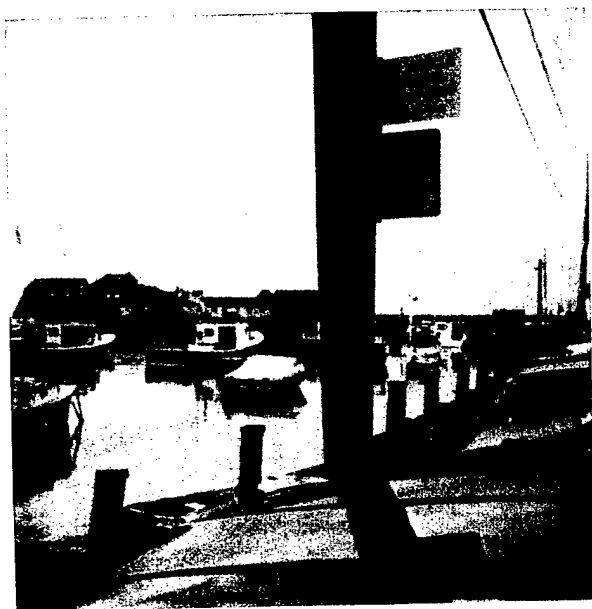
I-6 Turn Farm Rd



G-11
Tommy Island in back



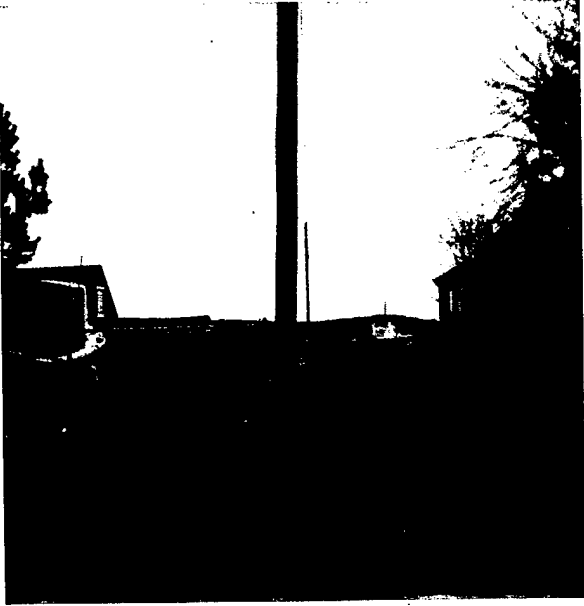
R-1



R-2



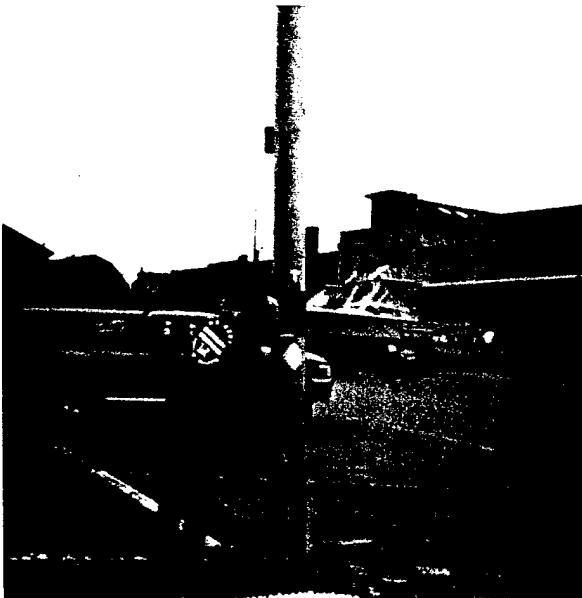
R-3



Ry-2



Ry-2



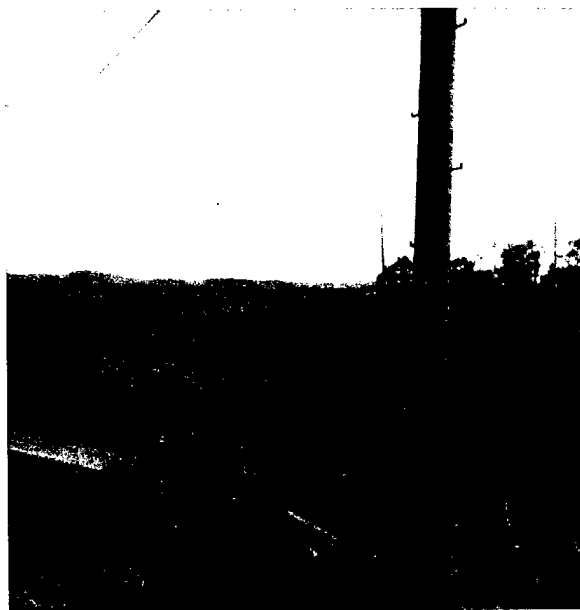
N-1



N-2



E-1



E-2



E-3



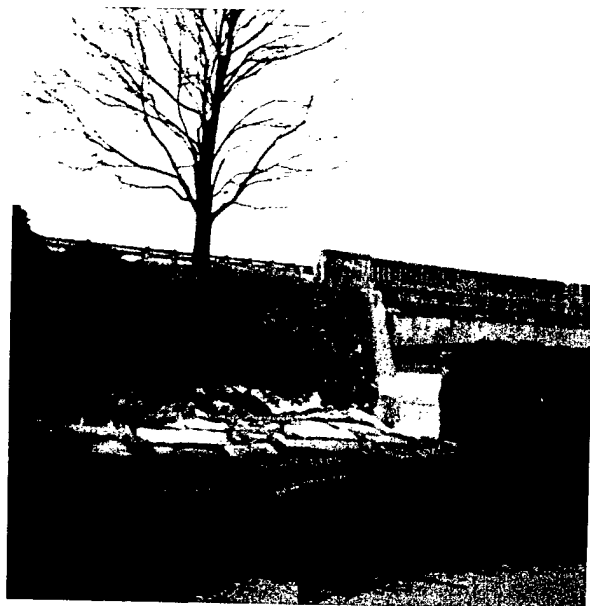
R-1



N-7



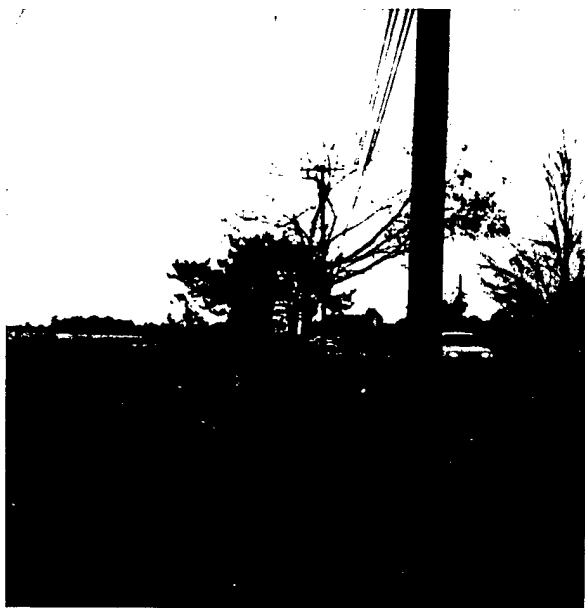
N-8



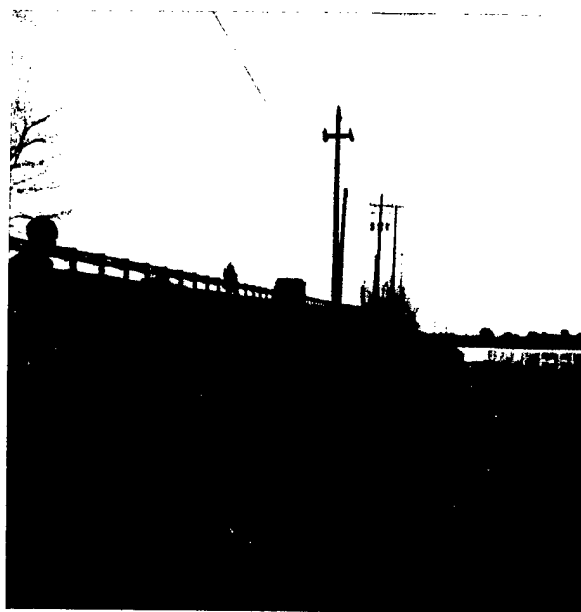
N-9



~~P-4~~ N-10



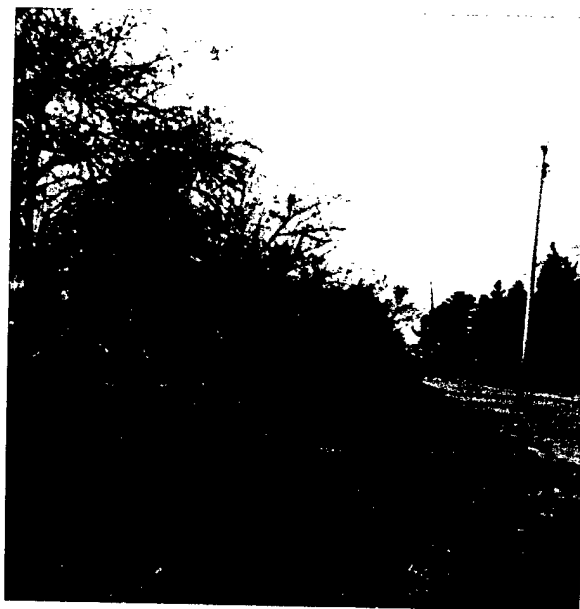
N-3



N-4



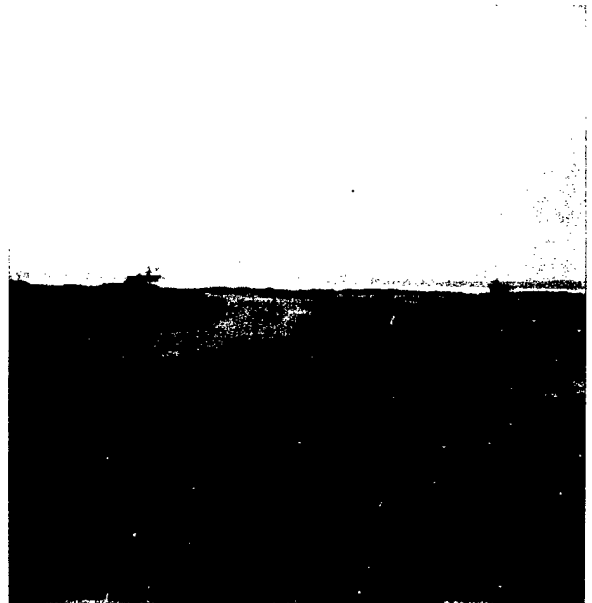
N-6



N-7



S-1



S-2



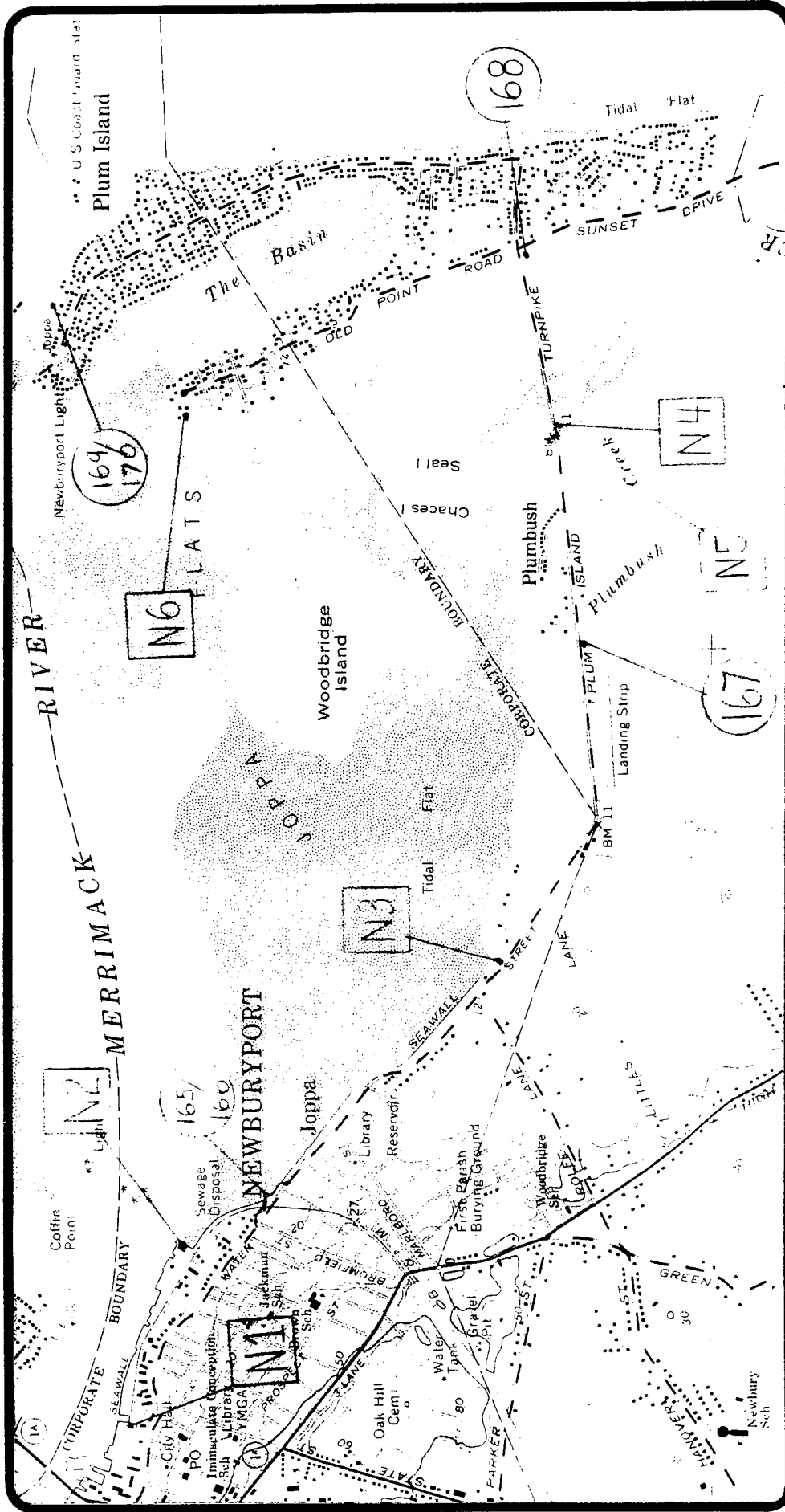
S-3



SB-1



SB-2



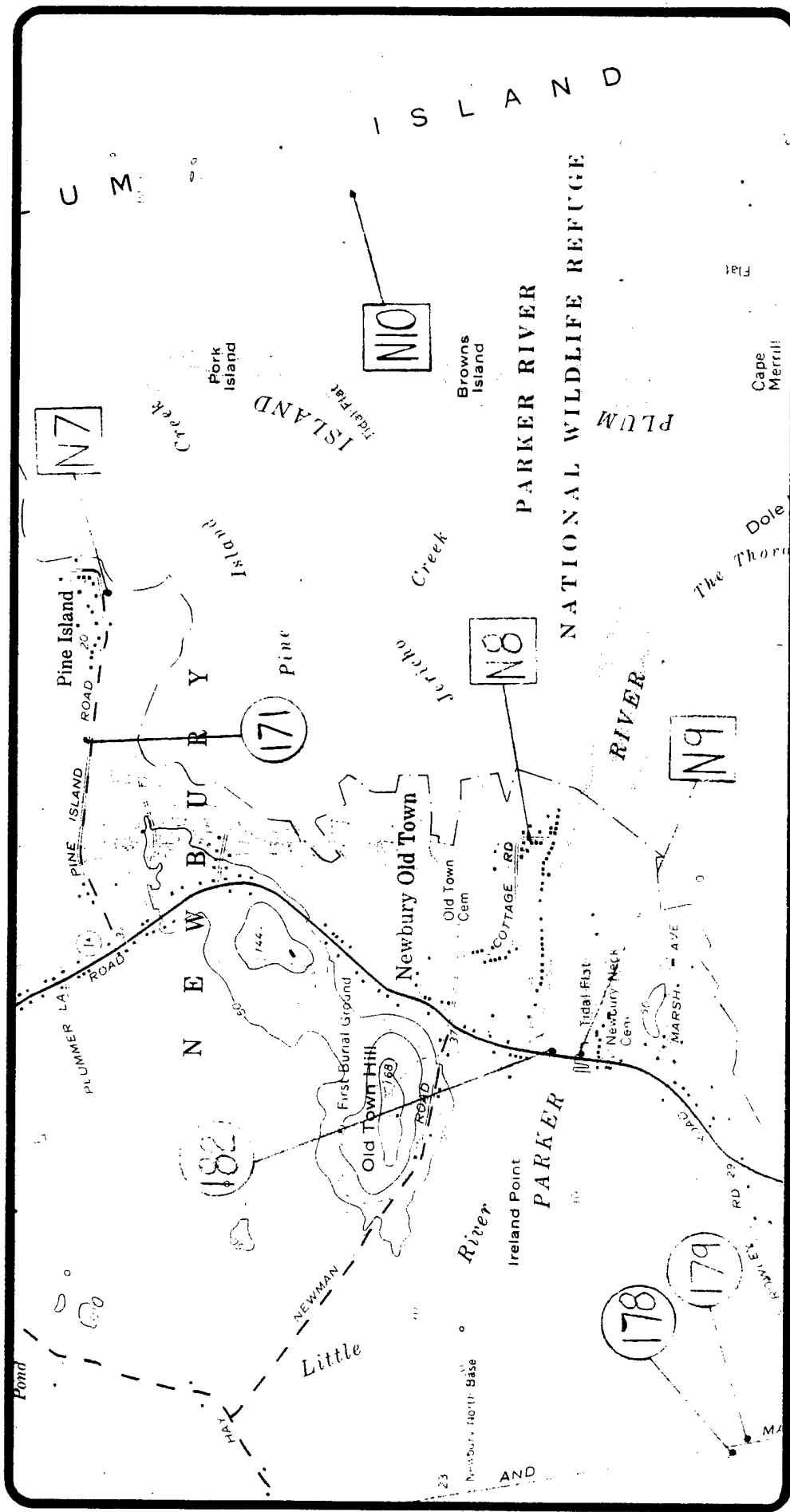
High Water Mark Location Map Halloween Storm, October, 1991



USGS 7.5 Minute Quadrangle - Newburyport East, MA.



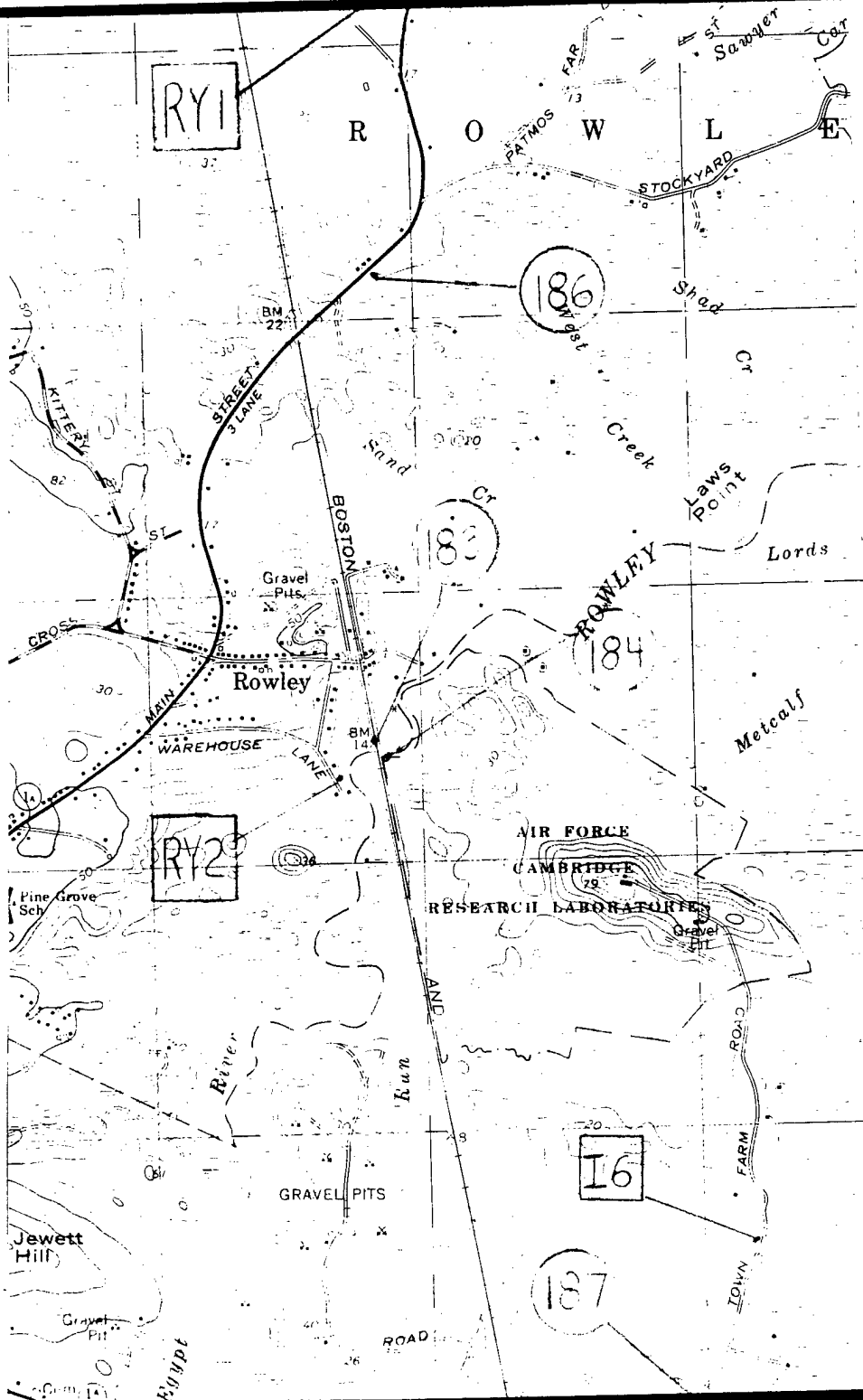
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High Water Mark Location Map Halloween Storm, October, 1991 □ - 1991 ○ - 1978

USGS 7.5 Minute Quadrangle - Newburyport East, MA.



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Ipswich, MA.

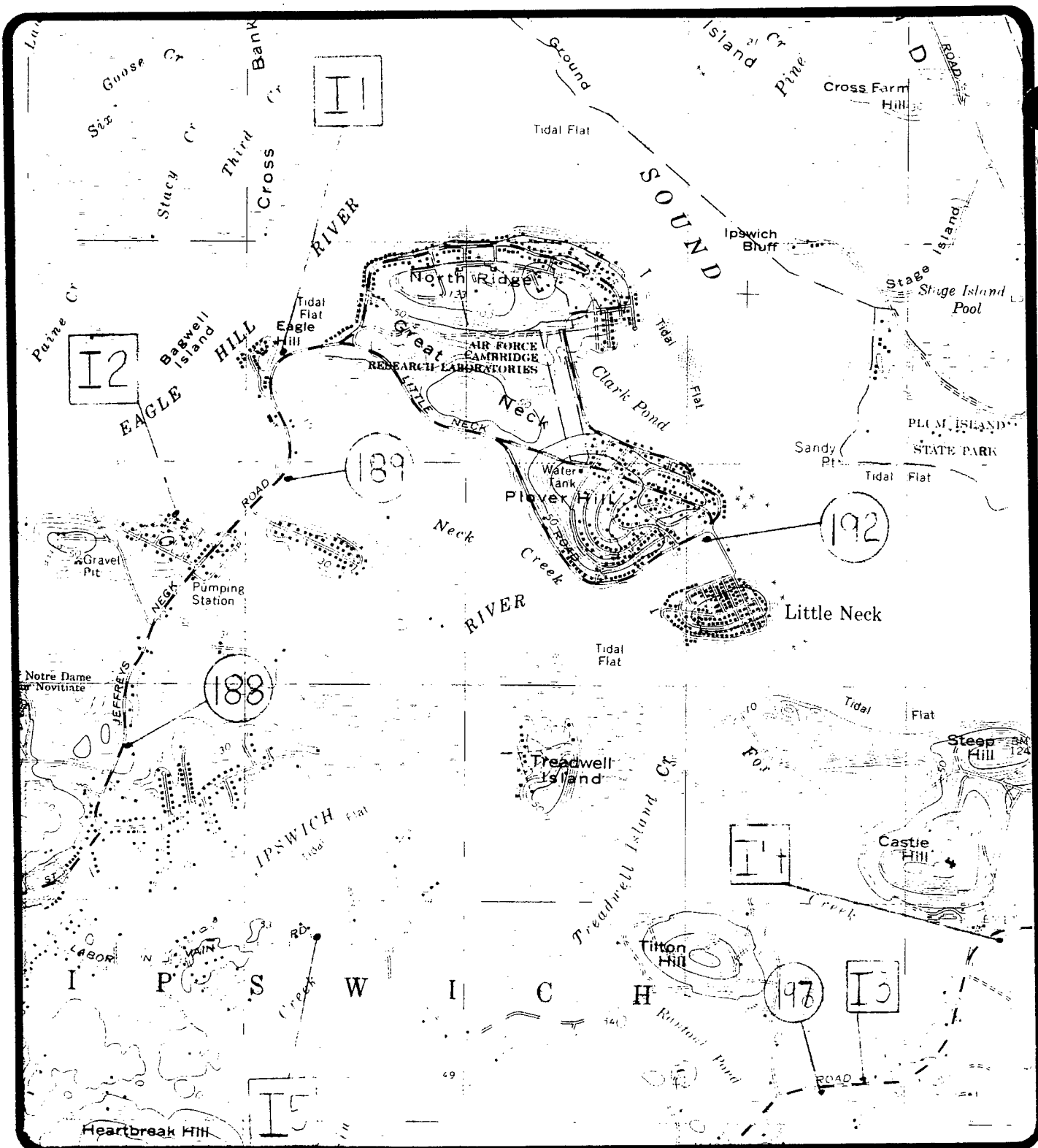
□ - 1991

○ - 1978

New England Division



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High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Ipswich, MA.

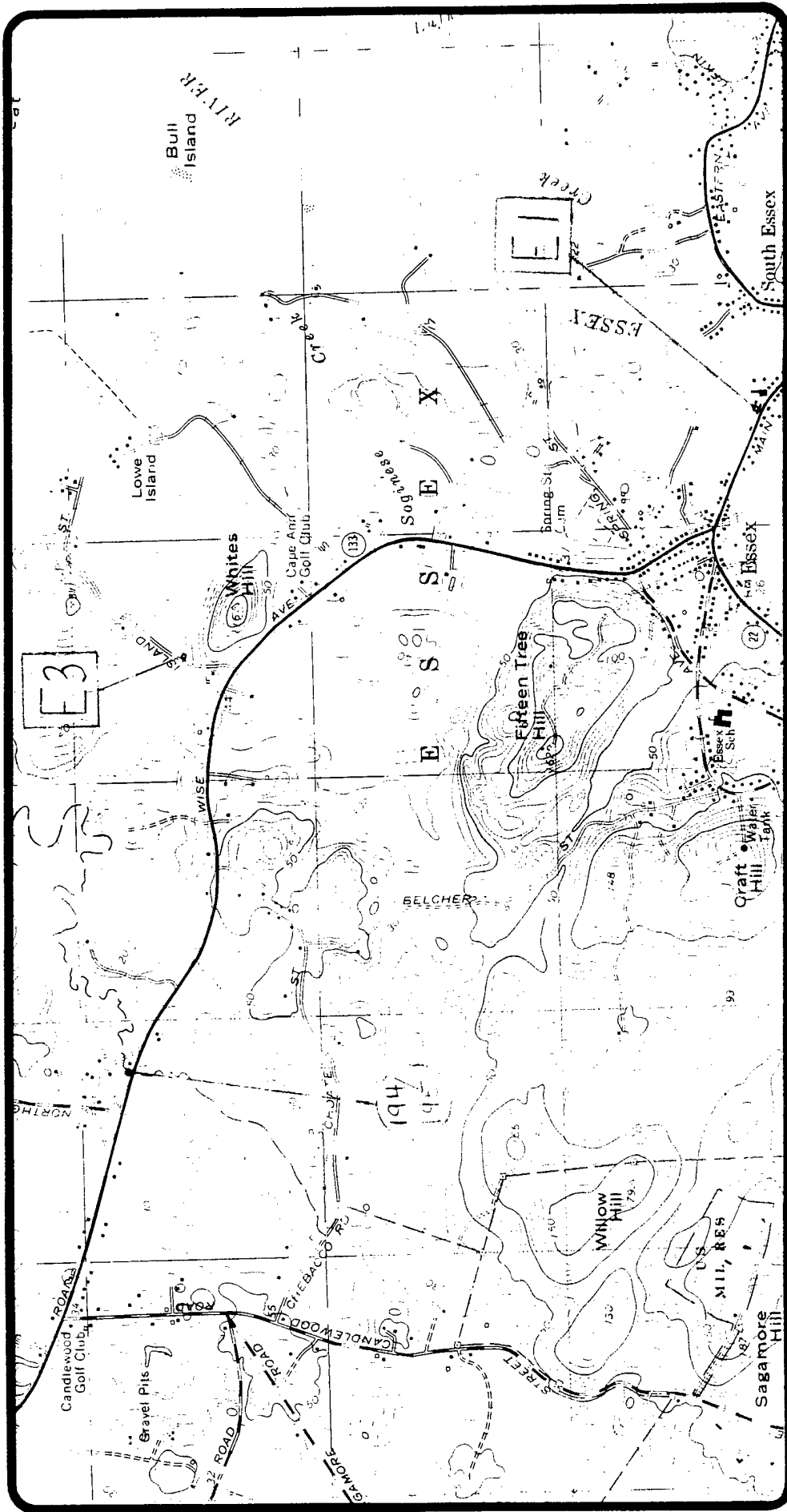
□ - 1991

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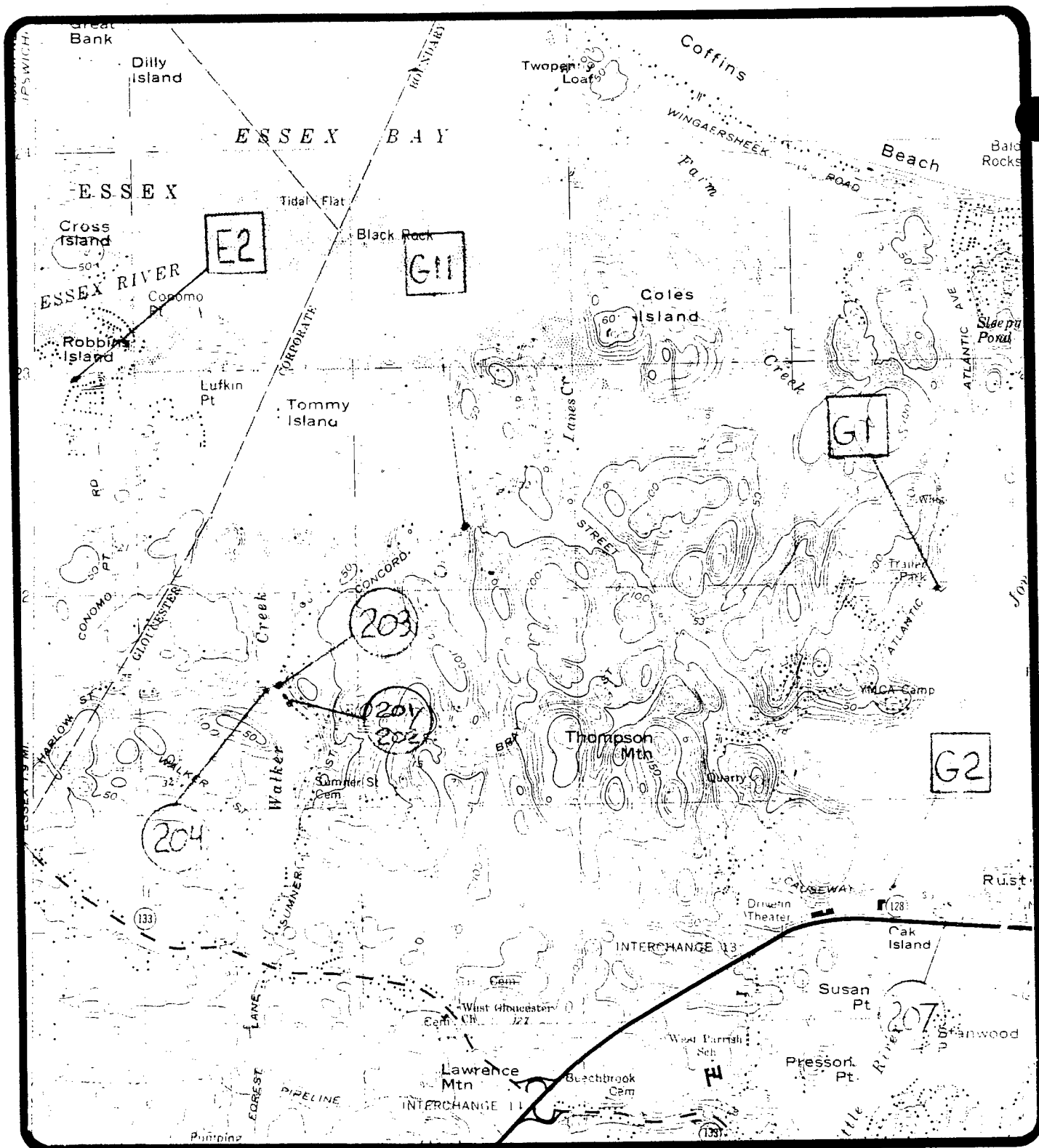
High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Ipswich, MA.

□ - 1991 ○ - 1978



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High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Gloucester, MA.

□ - 1991

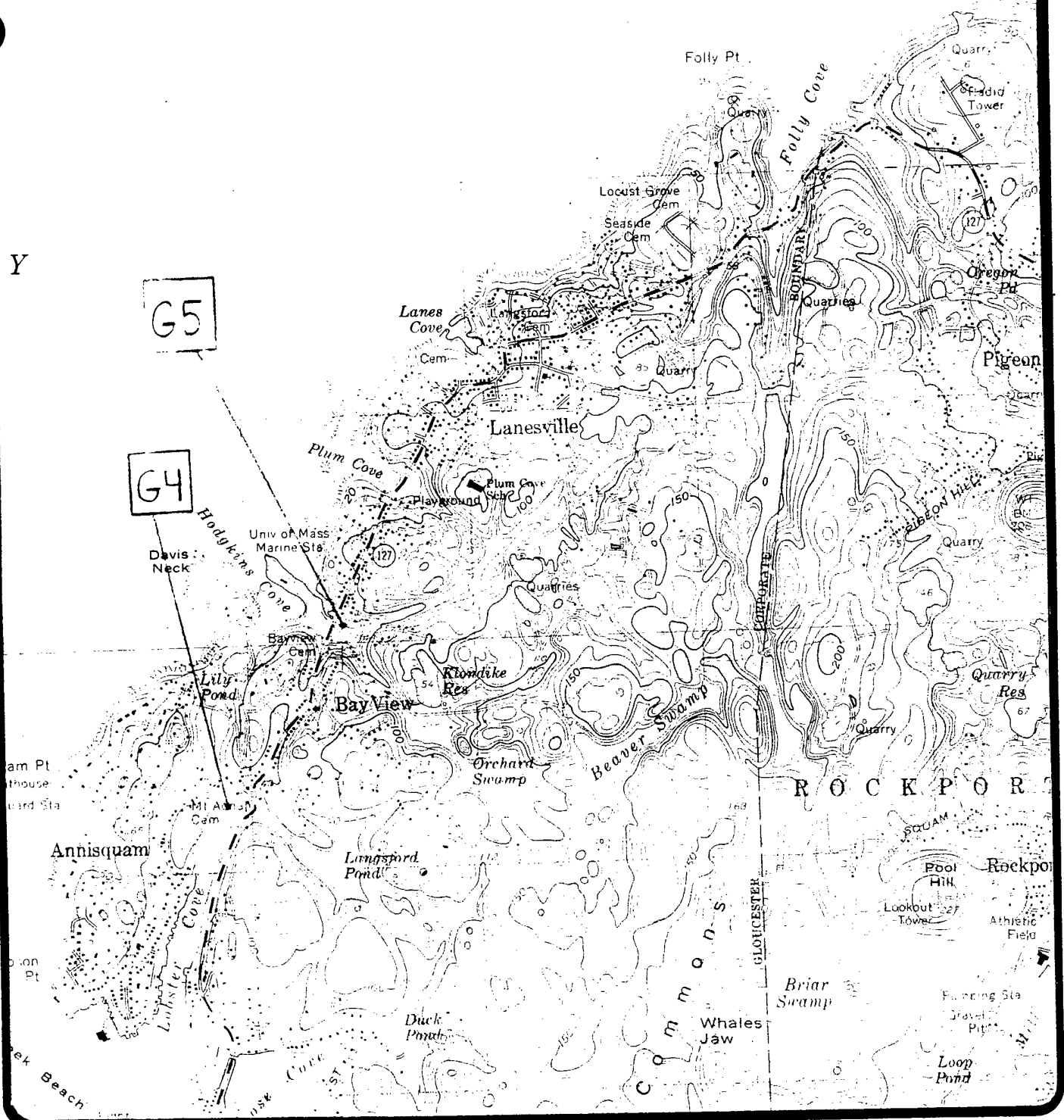
○ - 1978

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High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Gloucester, MA.

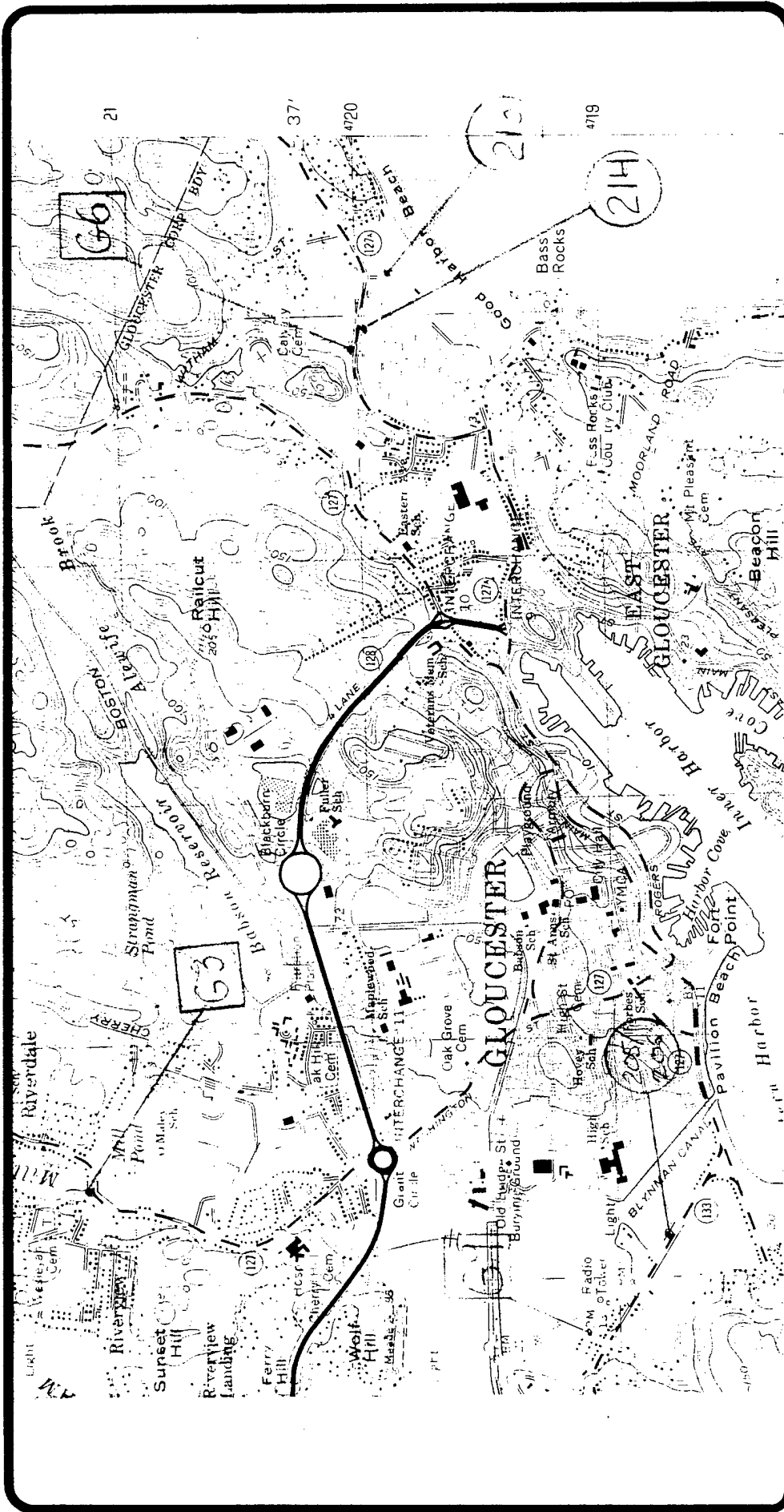
□ - 1991

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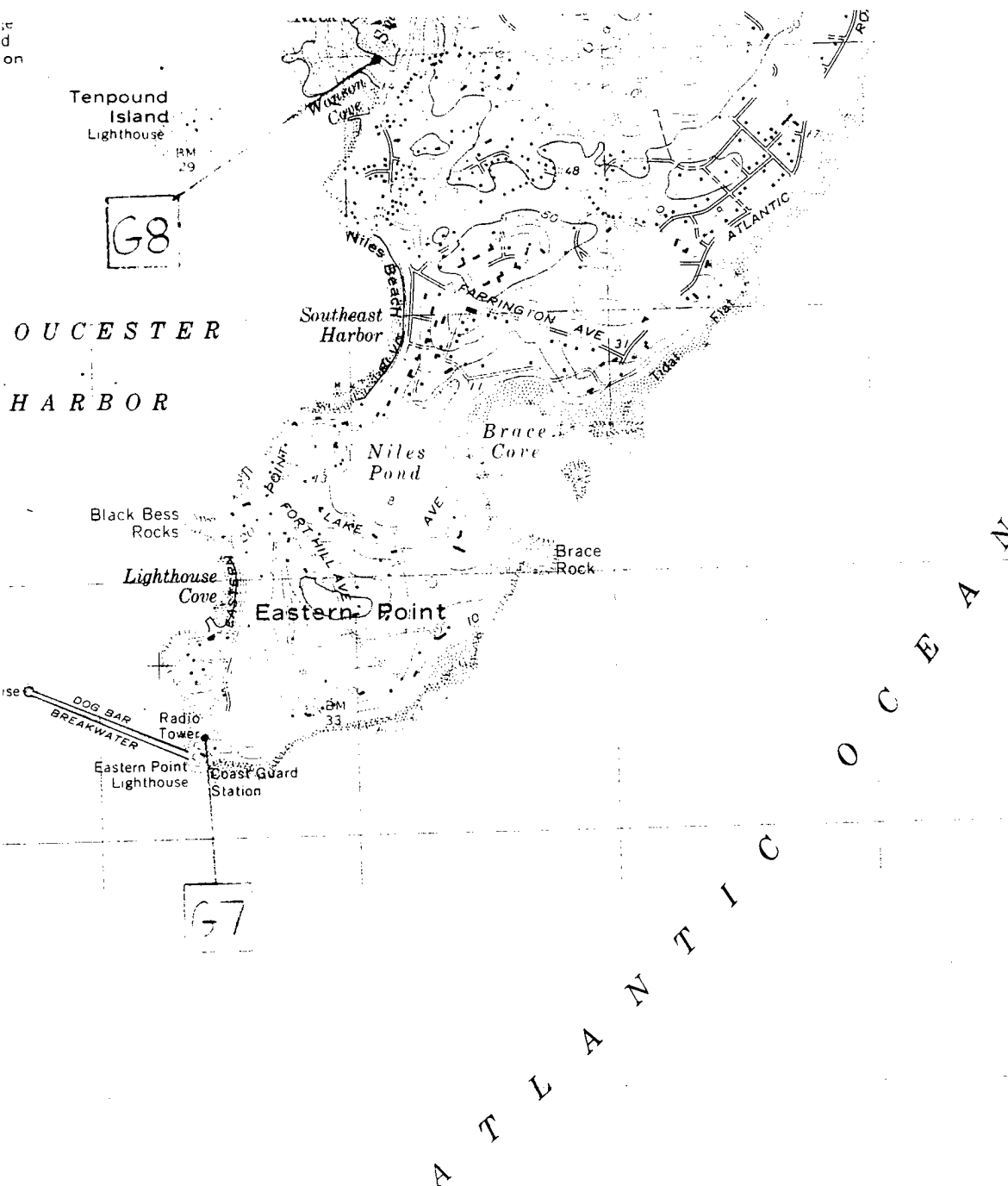


US Army Corps
of Engineers
New England Division

High Water Mark Location Map
Halloween Storm, October, 1991 □ - 1991 ○ - 1978

USGS 7.5 Minute Quadrangle - Gloucester, MA

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High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Gloucester, MA.

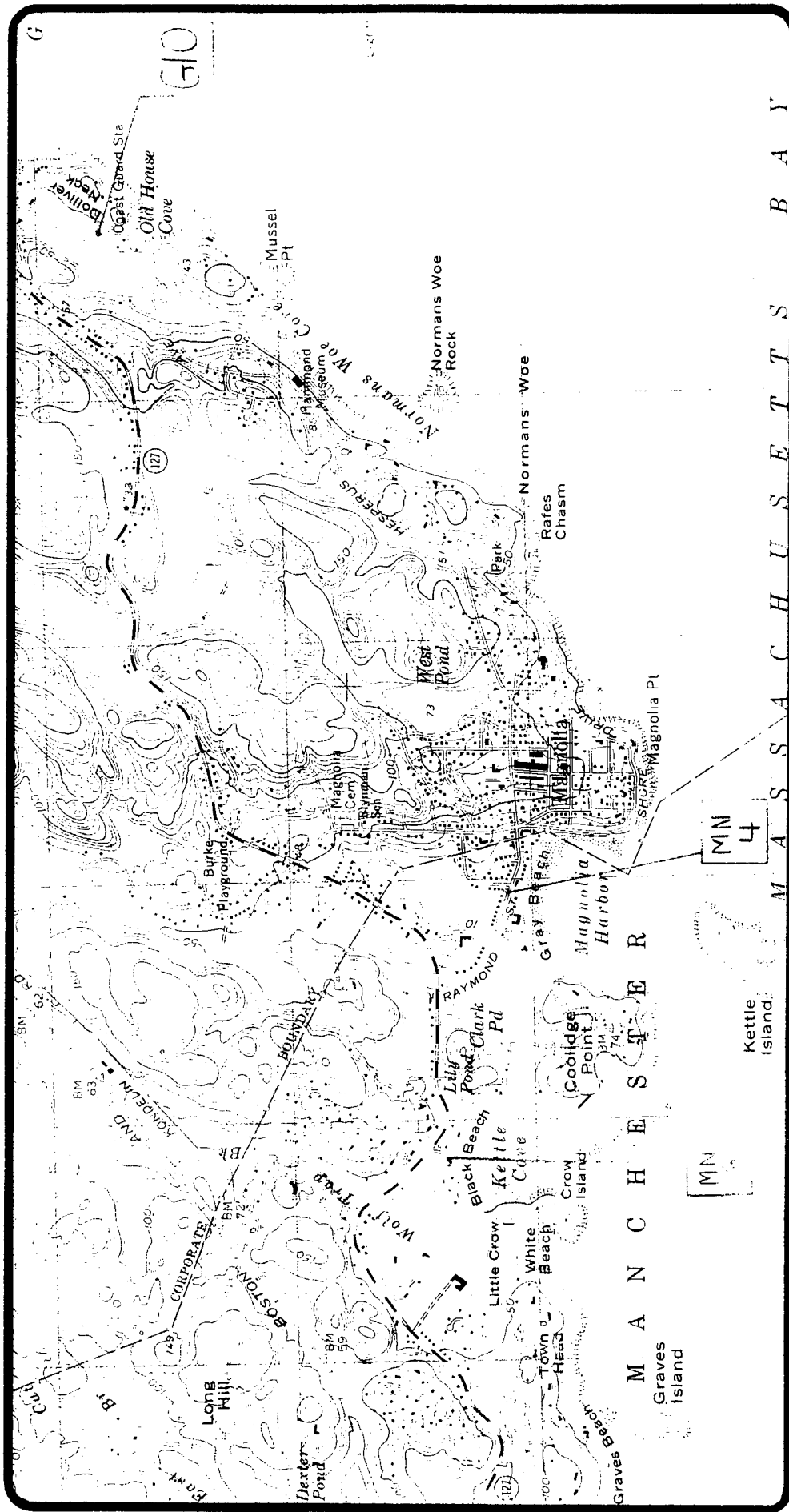
□ - 1991

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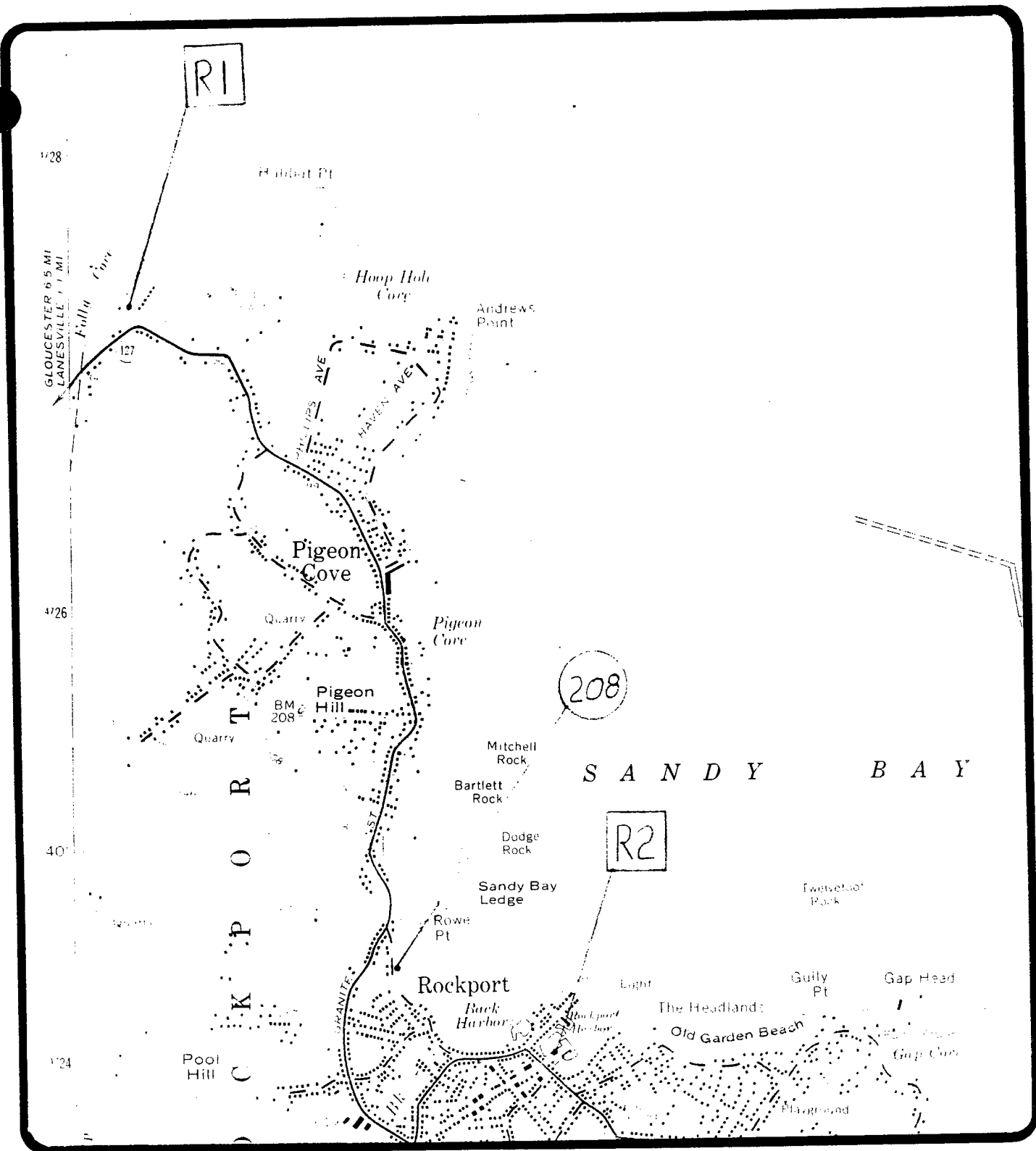


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New England Division

High Water Mark Location Map Halloween Storm, October, 1991

□ - 1991 ○ - 1978

USGS 7.5 Minute Quadrangle - Gloucester, MA



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Rockport, MA.

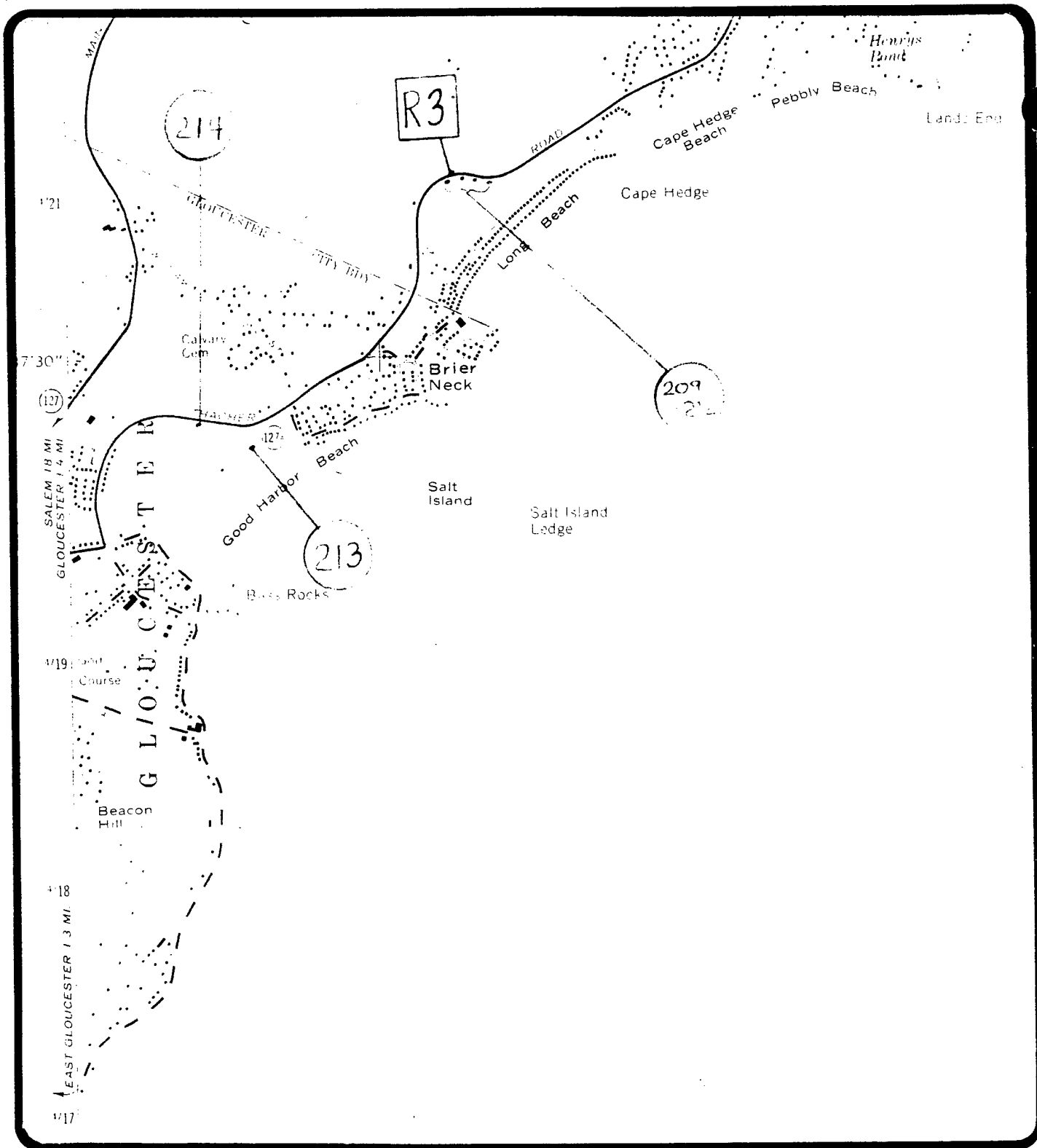
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High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Rockport, MA.

□ - 1991

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**US Army Corps
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APPENDIX

MANCHESTER, MASSACHUSETTS

DEPARTMENT OF THE ARMY
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424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Black Cove (Manchester Harbor)		MN1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Manchester	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Stake with orange ribbon denotes debris line. Stake is across from seawall near concrete slab between tan and light brown house (#73). Close to the road off the corner of a stonewall in yard. High water is where the stake meets the ground.

5 November 1991	Karen Schofield and John Yen
-----------------	------------------------------

(Date obtained)

(Obtained by)

Joseph Falzone, 73 Harbor Street

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

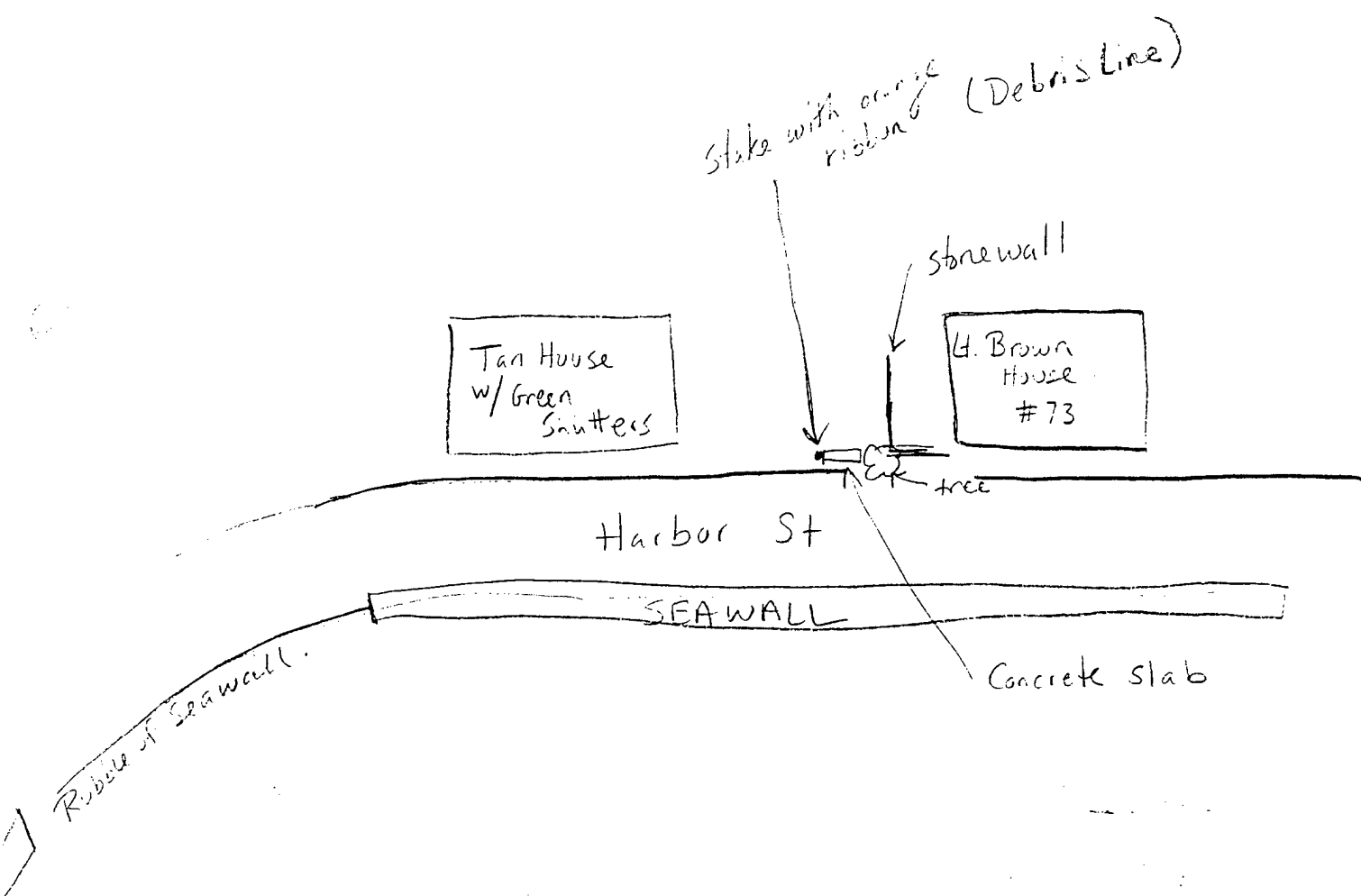
(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Confident Point. Eyewitness pointed out debris line. Broken seawall also indicated flooding in the area.



M.N.

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Singing Beach (Northeast of Ballarach Cove)</u>	<u>MN2</u>
(Name of River, Bay or Harbor)	(Watermark No.)
<u>Manchester</u>	<u>MA</u>
(City or Town)	(State)

Description of high watermark: Ribbon on front right corner of beach house at Singing Beach. Mark is approximately 1 foot above sidewalk.

<u>5 November 1991</u>	<u>Karen Schofield and John Yen</u>
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

<u>Debris Line along beach house and fence</u>	<u></u>
(If not pointed out, how obtained?)	(Date and hour of high watermark)

<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>
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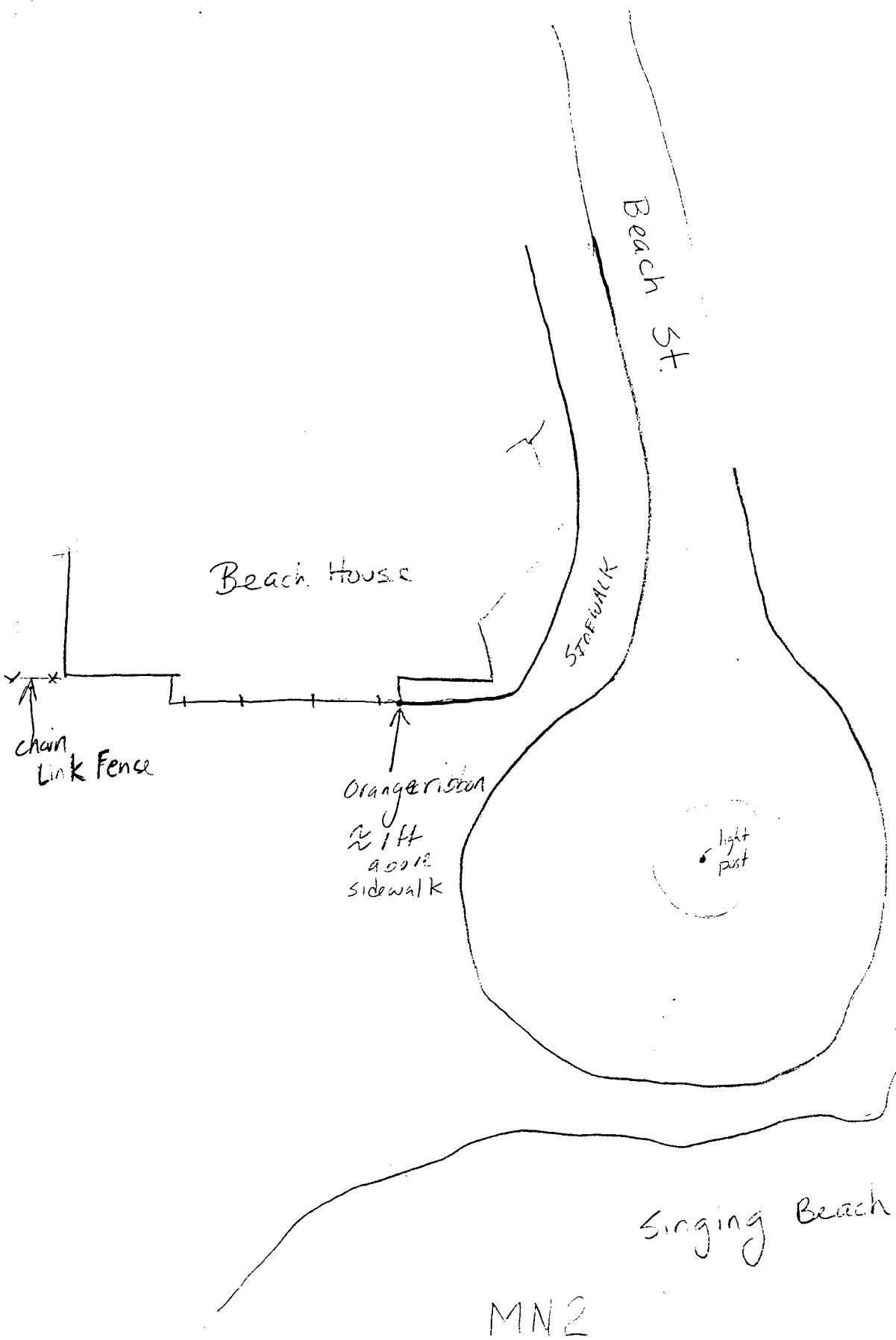
<u>(Elevation of high watermark above water surface)</u>	<u>(Date & Hour)</u>	<u>(Class. of watermark)</u>
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<u>(Elevation determined by)</u>	<u>(Date)</u>	<u>(Order of levels)</u>
----------------------------------	---------------	--------------------------

<u>(Nearest dam upstream or downstream)</u>	<u>(Latitude and longitude of watermark)</u>
---	--

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Fairly Confident Point. Distinct line with flooding indications in back of house but distinct line only along front of beach house where wave action was.



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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Kettle Cove		MN3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Manchester	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Orange stake marks debris line. Stake is near the left front corner of the garage beside the stone wall. High water mark is where the stake meets the ground.

5 November 1991	Karen Schofield and John Yen
(Date obtained)	(Obtained by)

Talked to Bill Hatcher (Hatcher Landscaping). Owner: Mrs. Traverse
(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)	(Date and hour of high watermark)
-------------------------------------	-----------------------------------

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Mostly Confident Point. Distinct debris line on both sides of house and flooding in neighbor's basement which is lower.

Marsh Area

Garage

100
Ocean St.
(Brown House)

STONEWALL

stake
w/ orange ribbon

↑
X

Driveway

Ocean St

↓

Kettle Cove

MINS

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Magnolia Harbor		MN4
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Manchester	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: PK nail and orange ribbon fence post near pole #9.
The fence is gray and has tennis courts behind it. Nail is on 4th fence post from
driveway approximately 2 feet from ground.

5 November 1991	Karen Schofield and John Yen
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

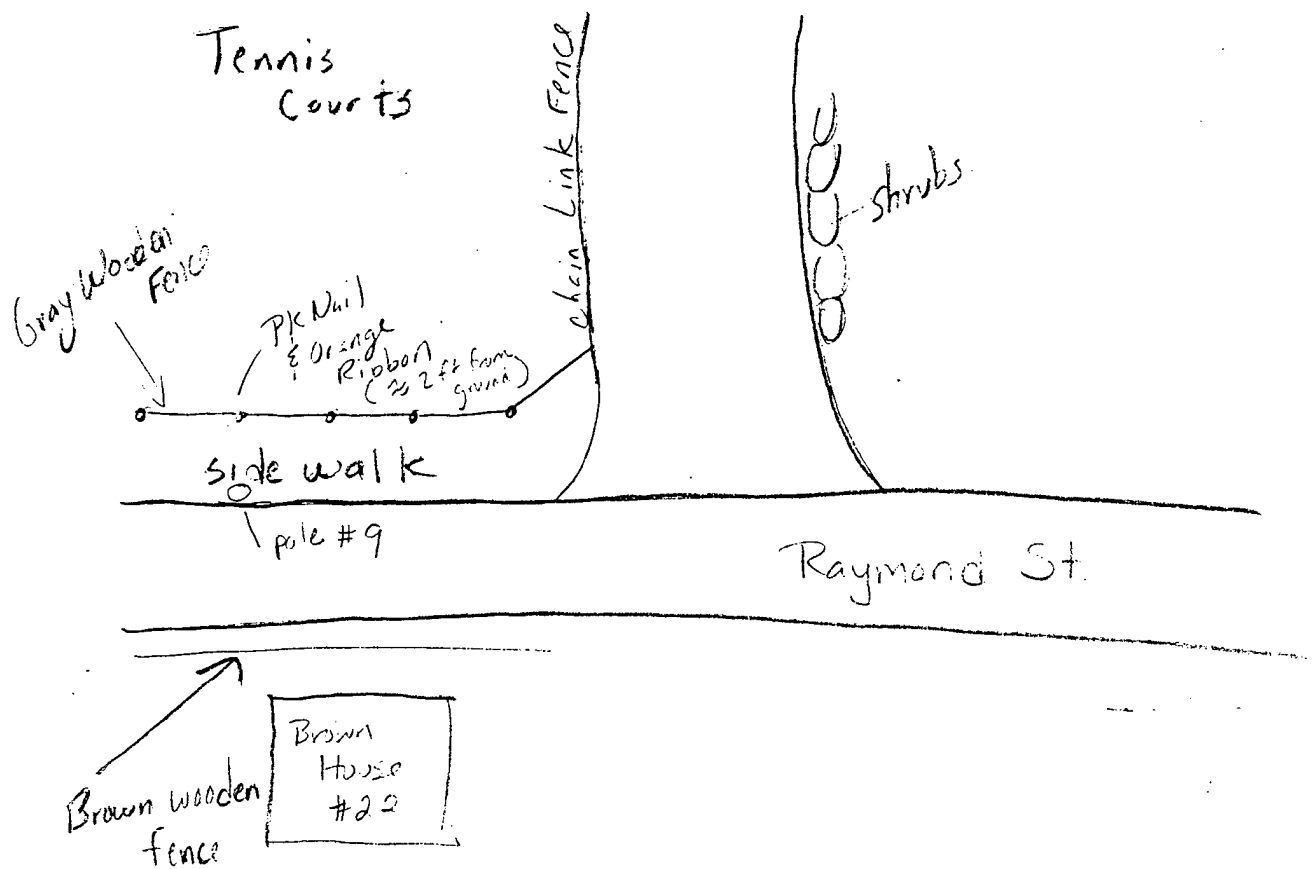
Distinct dirt line on fence and in the area	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

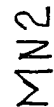
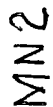
Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Not Very Confident Point. Land at ocean seen higher than this point.

Therefore, possible overtopped flooding.



MN4





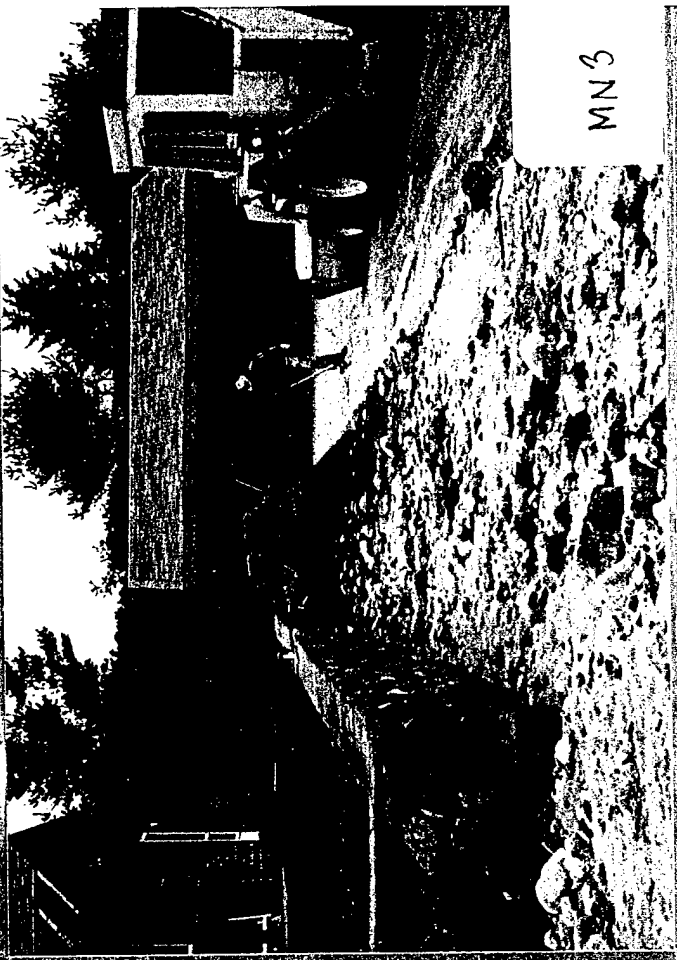
MN4



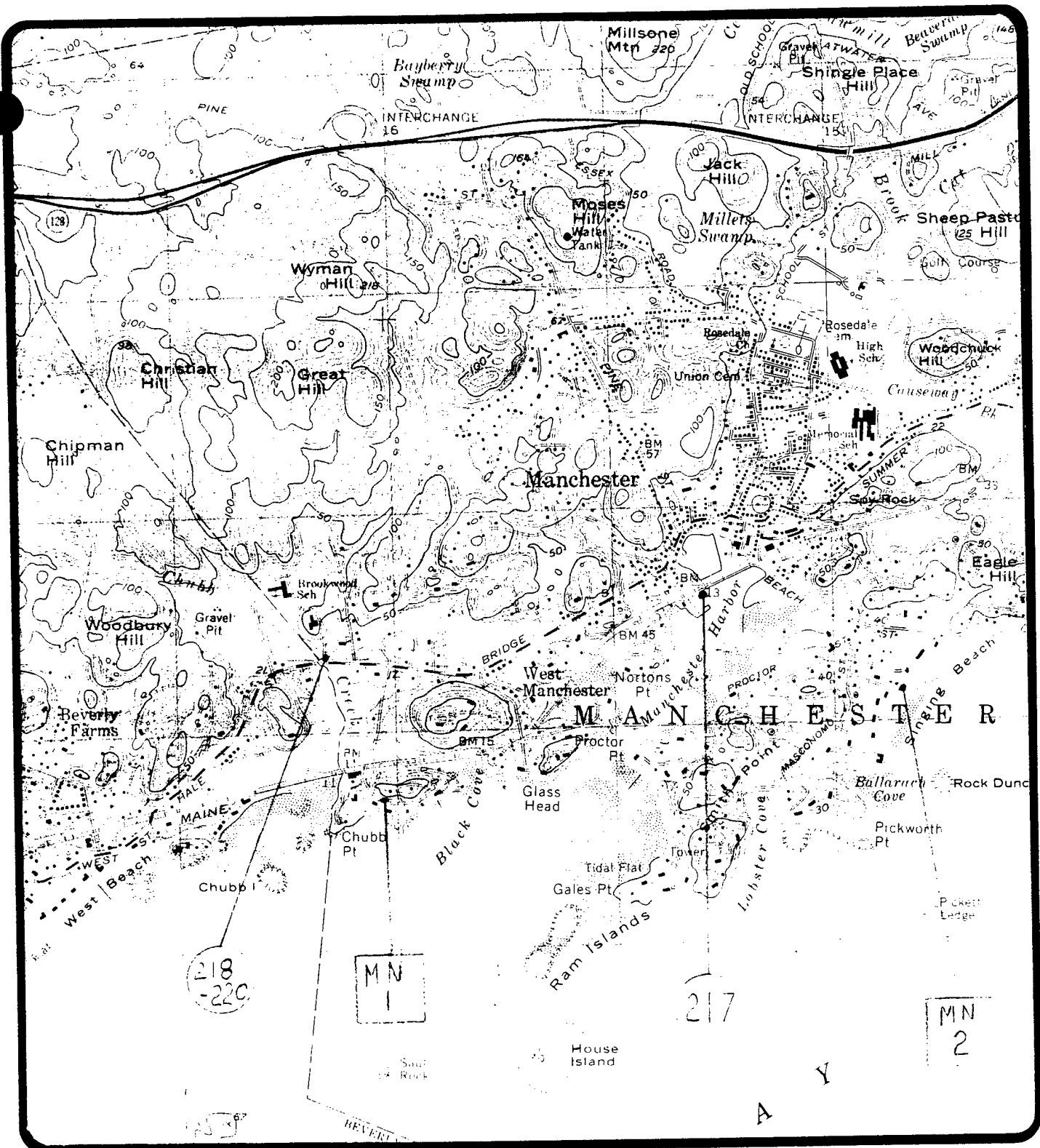
MN3



MN4



MN3



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Marblehead North, MA.

□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers

APPENDIX
BEVERLY, MASSACHUSETTS

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Beverly Harbor		BV1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Beverly	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: PK nail with orange tag in telephone pole #5770
approximately 16 inches above sidewalk. The pole is near the chain link fence
across from yellow house (#132).

5 November 1991	Karen Schofield
(Date obtained)	(Obtained by)
Police Officer Smith (Badge #54)	
(Name and address of person pointing out high watermark)	
Officer estimated height, but also added that water didn't flood past yacht club entrance.	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

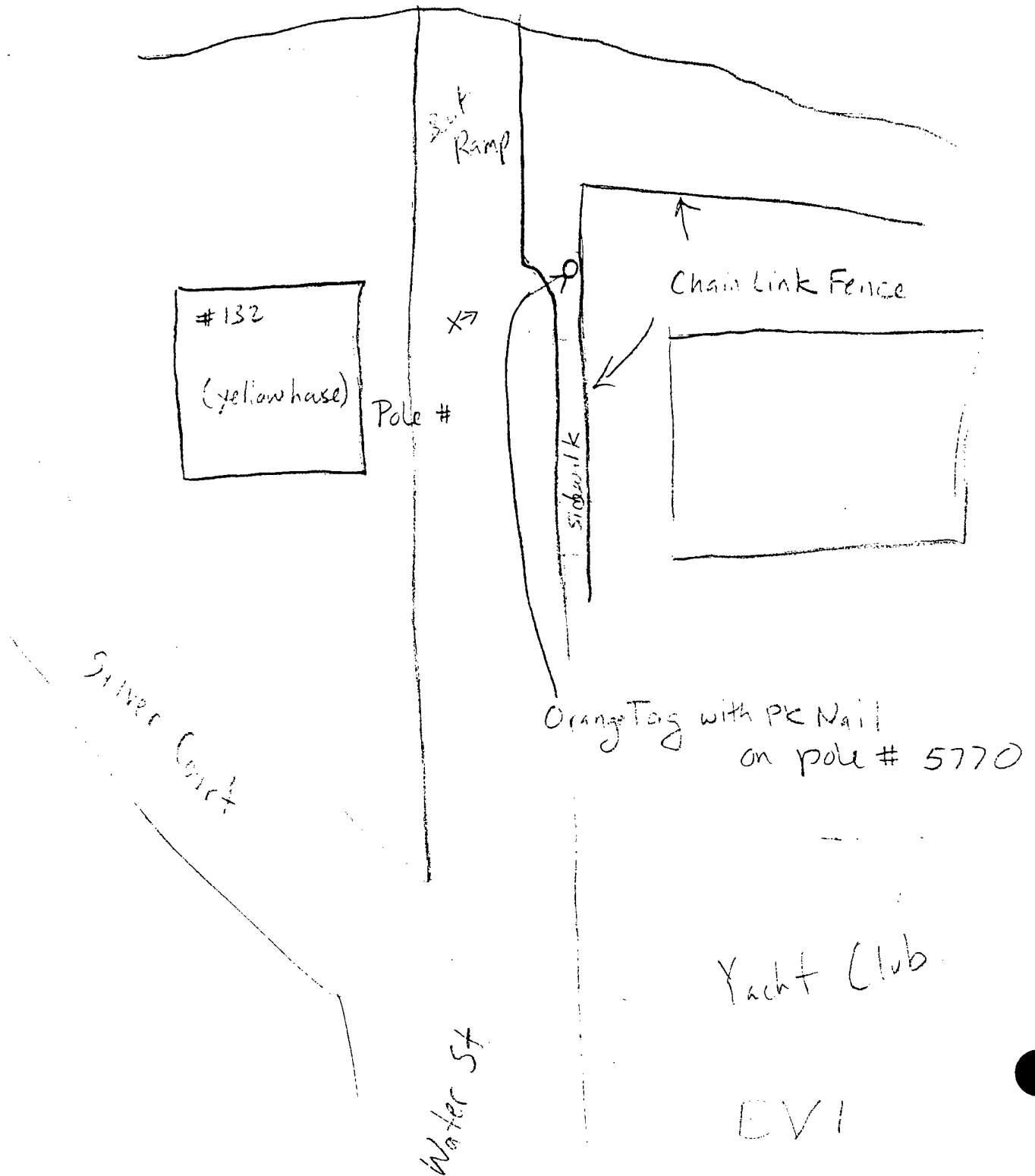
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Fairly confident. Police Officer gave us the approximate height, but
compared to roadway height, estimate may be a little high.

X → direction & picture approx.

Beverly Harbor



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Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Beverly Harbor		BV2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Beverly	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Stake with orange ribbon marks the debris line near left corner of beach house. The beach is part of Percy Lyons Park on Lothrop Avenue. Highwater mark is where the stake meets the ground.

5 November 1991

Karen Schofield

(Date obtained)

(Obtained by)

Officer Smith (from point #5) said road was flooded and debris line indicates that to be true.

(Name and address of person pointing out high watermark)

Distinct Debris Line found

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

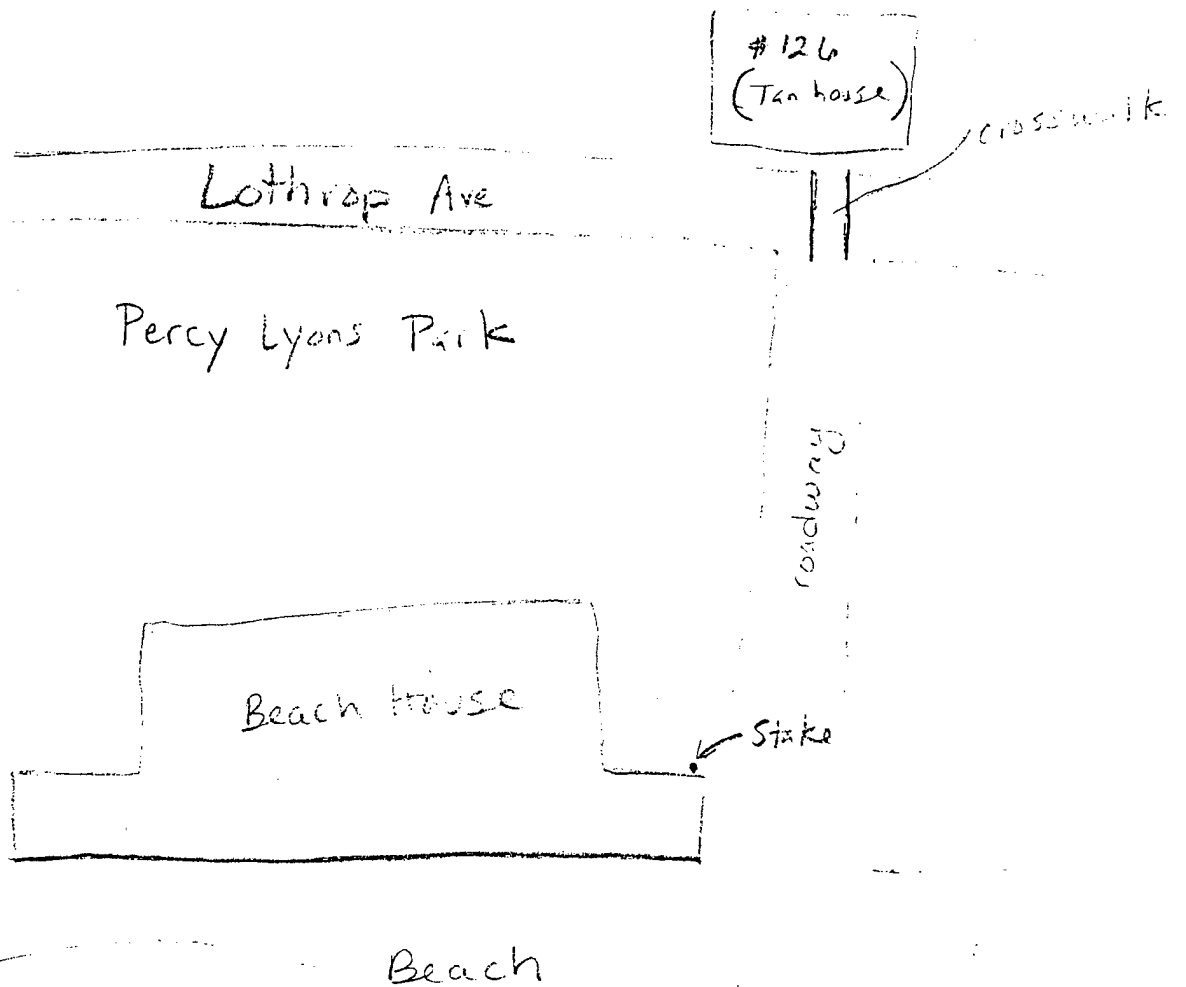
(Order of levels)

(Nearest dam upstream or downstream)

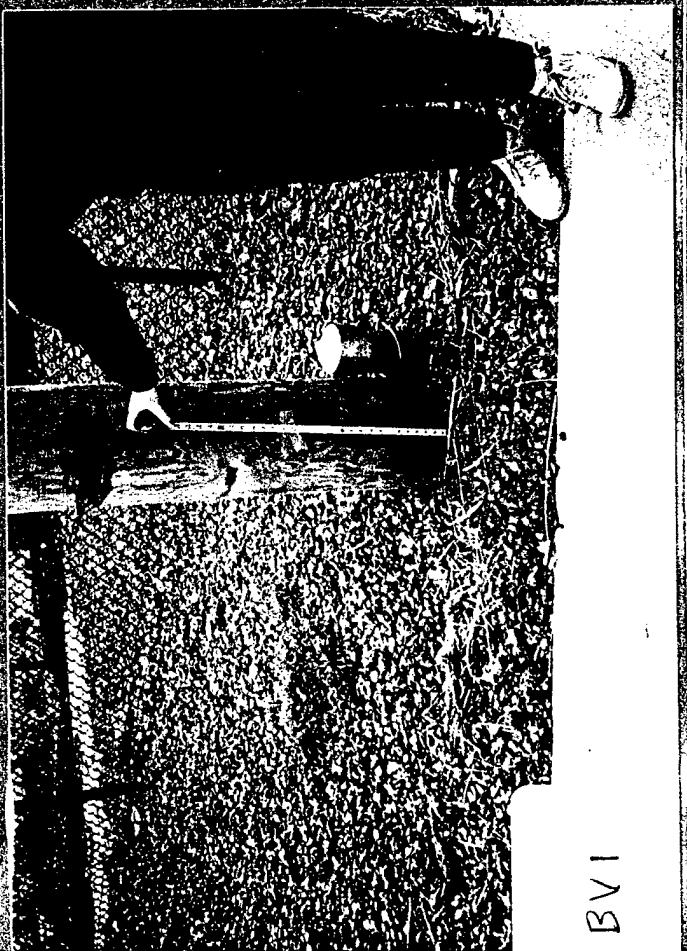
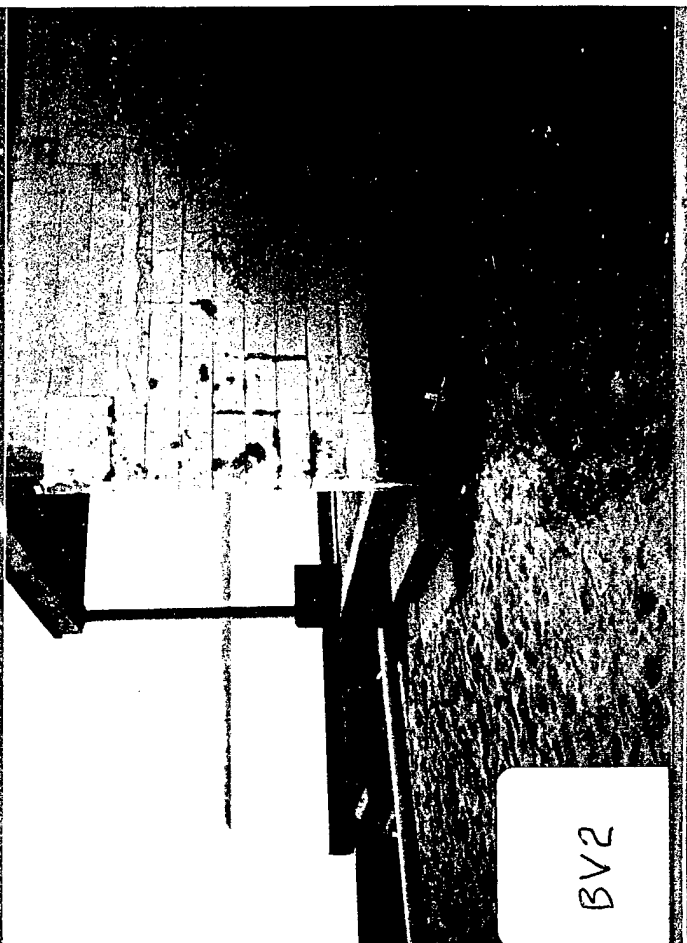
(Latitude and longitude of watermark)

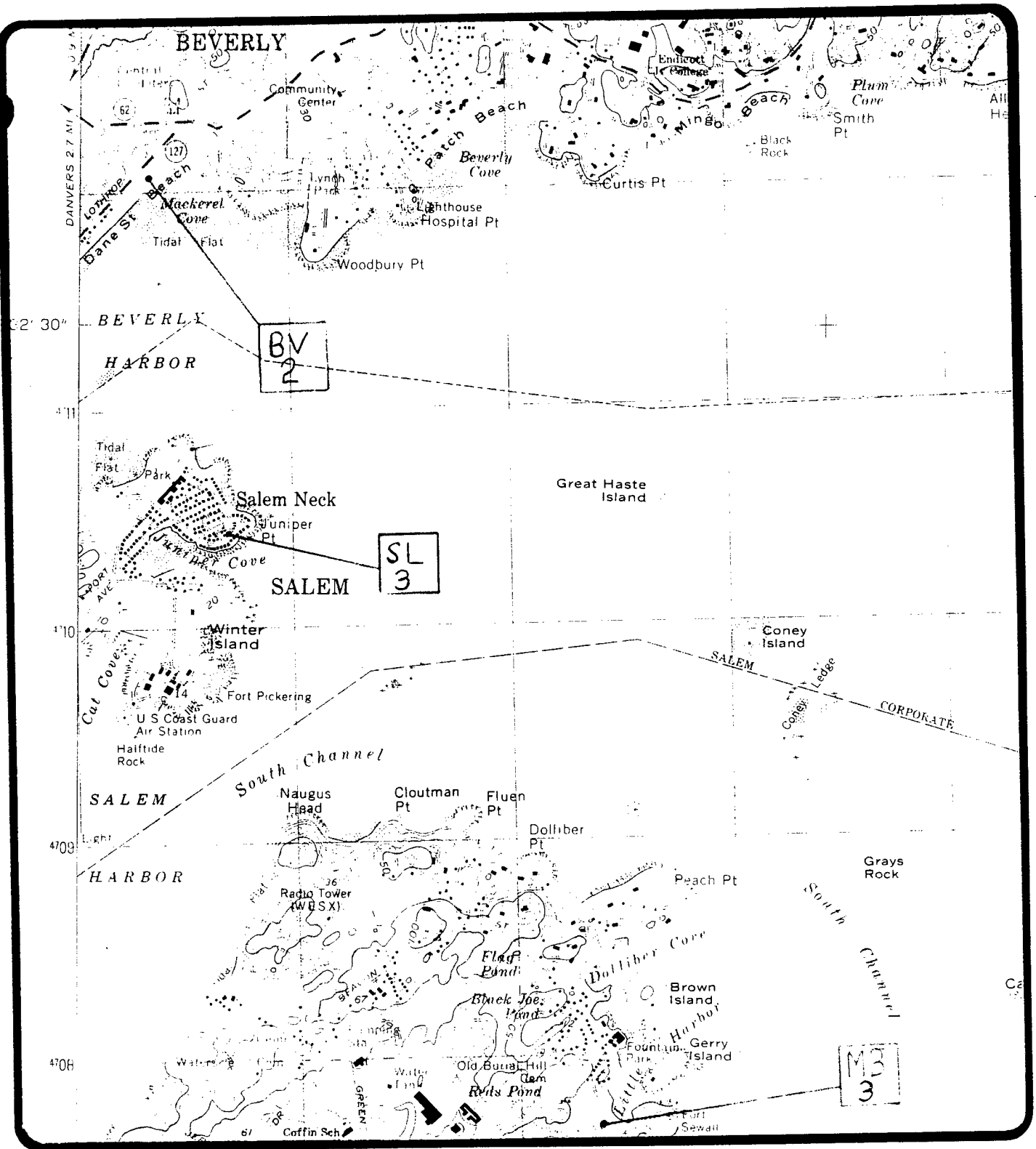
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Mostly Confident Point. Distinct debris lines and road was known to be flooded. Slight chance beach was too high to indicate continuous surge waters and not just ponding.



EVE





High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Marblehead North, MA.

□ - 1991 ○ - 1978

New England Division



US Army Corps
of Engineers

APPENDIX

DANVERS, MASSACHUSETTS

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Porter River		DN1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Danvers	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Ribbon tied on pier on the right of boat ramp at Pope's Landing. The boat ramp is near the Harbormaster Building and the ribbon is on the first pier on the right side of walkway approximately 16" down top of pier walkway.

5 November 1991

Karen Schofield and John Yen

(Date obtained)

(Obtained by)

(Name and address of person pointing out high watermark)

Distinct Debris Line along river and pier
(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Confident Point. Distinct Debris Line around the general area and right on the shoreline.

Harbor St.

Shrubs

Harbor
Master
Bldg

Parking Lot

sidewalk

wooden pier

Boat
Ramp

ribbon
on
post

2 1/2" down from
walkway

Liberty St.

Porter River

DNI

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New England Division, Corps of Engineers
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Danvers River		DN2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Danvers	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Debris line marked with stake near beach at wooden fence beside gray house (#35). Access to stake is grassy "roadway" between the two fences as shown on map. Highwater is where the stake and ground meet.

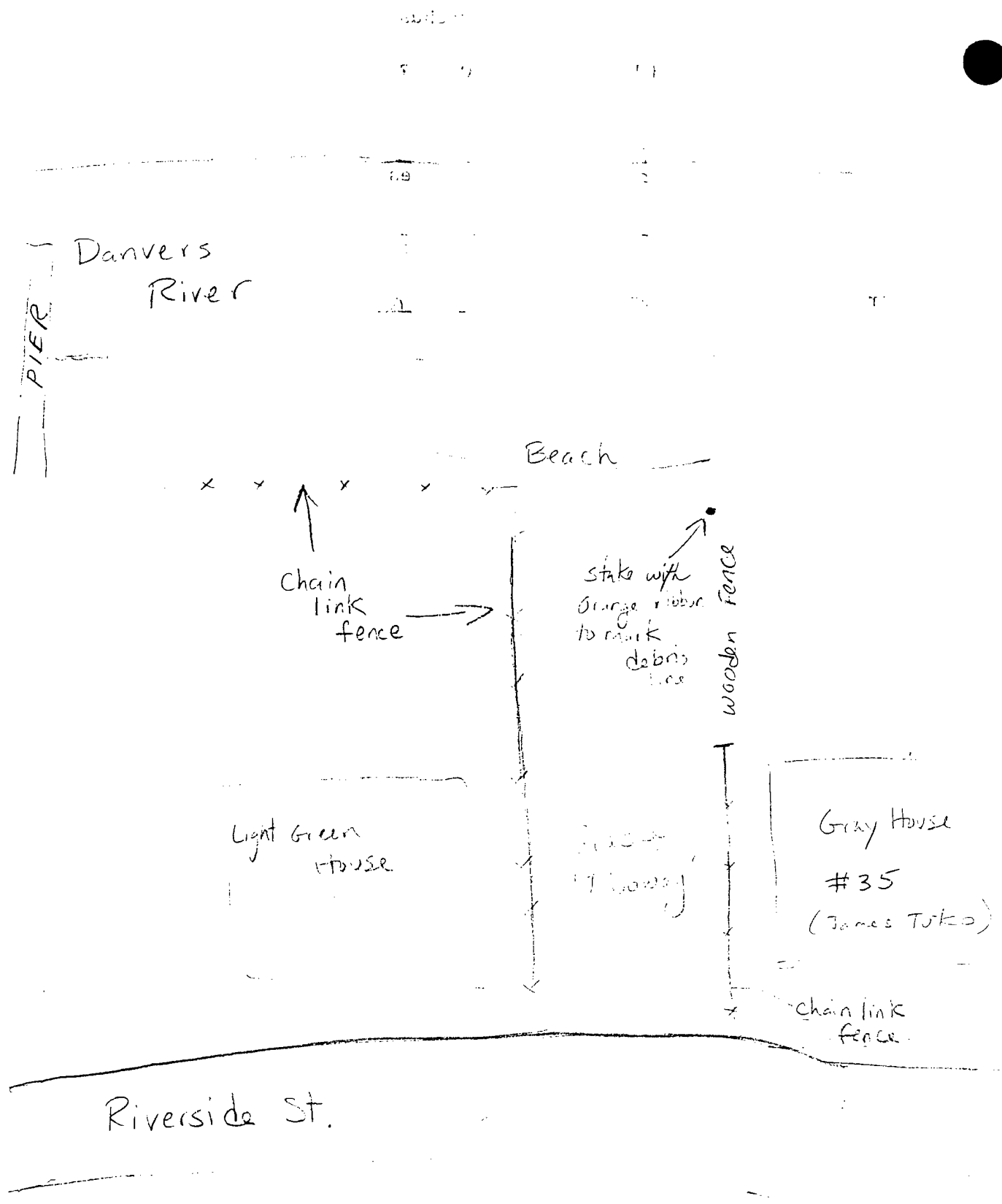
5 November 1991	Karen Schofield and John Yen
(Date obtained)	(Obtained by)
James Tutko, 35 Bates Street	
(Name and address of person pointing out high watermark)	

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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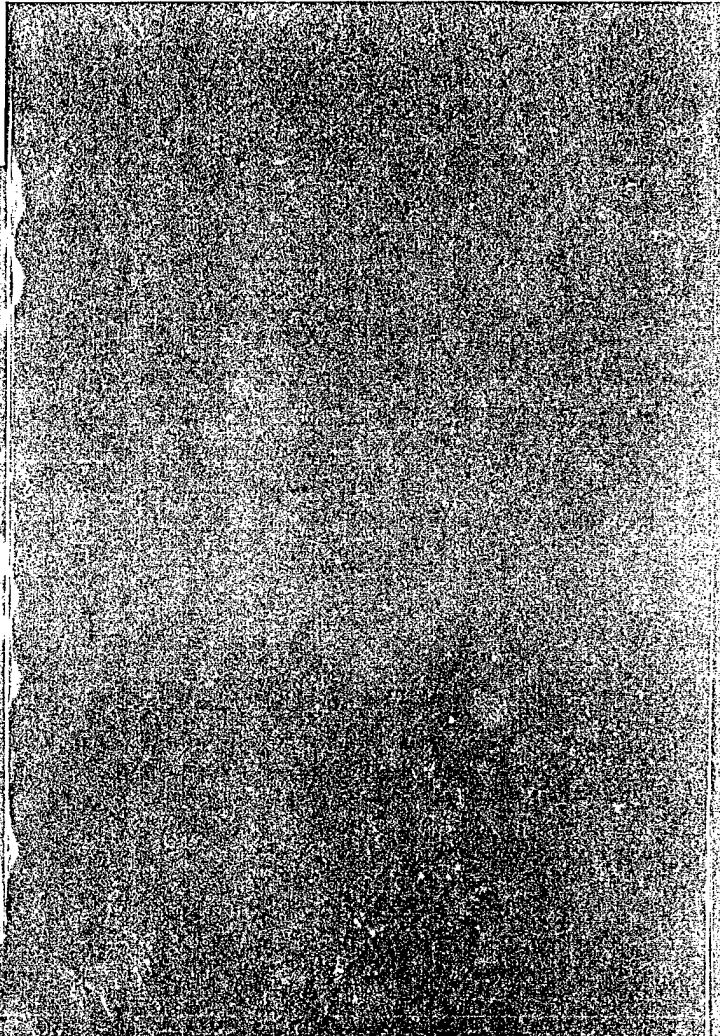
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

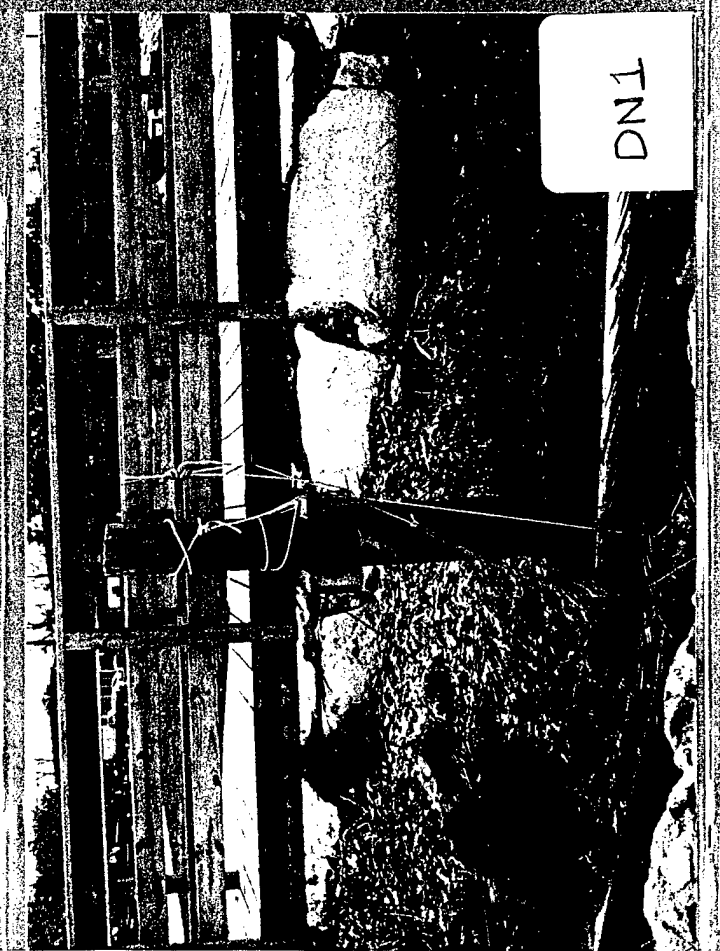
NOTE: Confident Point. Distinct debris line here and in the area. Also eyewitness description. Location right on the shore.



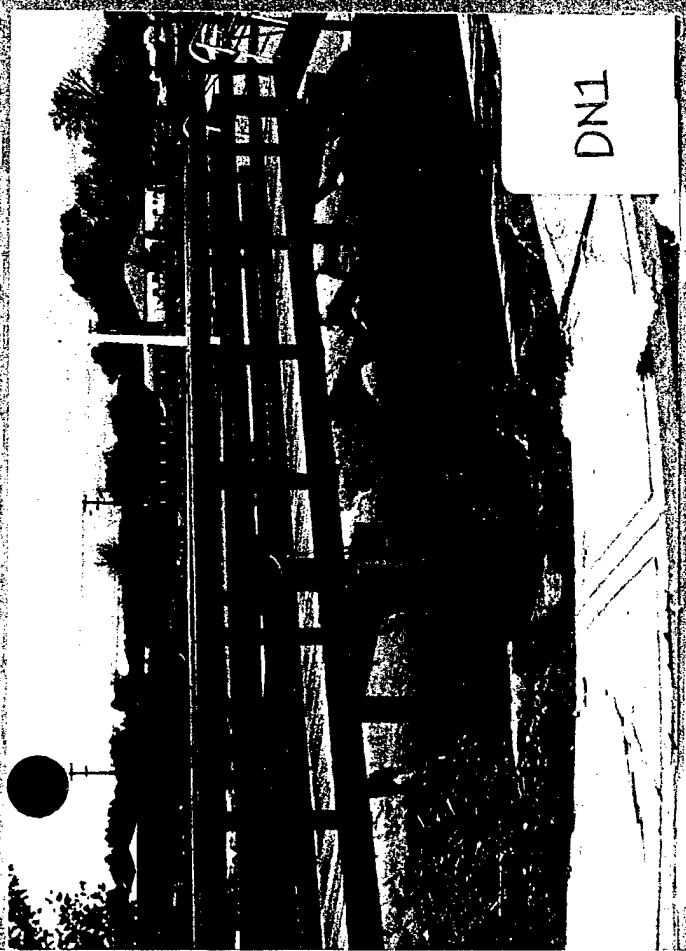
Riverside & Bates are off of Rt 35.



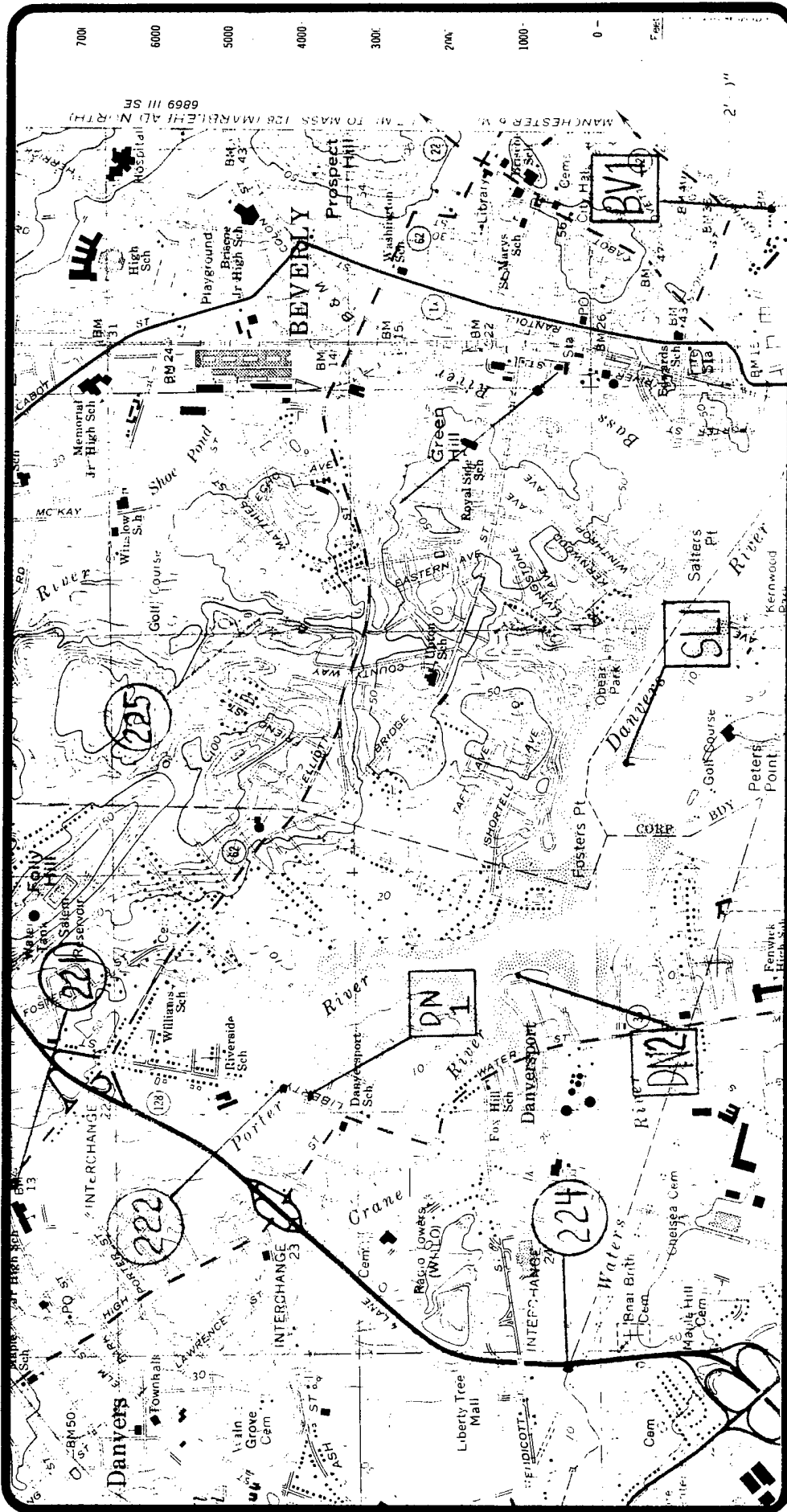
DN2



DN1



DN1



US Army Corps
of Engineers
New England Division

High Water Mark Location Map
Halloween Storm, October, 1991 □ - 1991 ○ - 1978

USGS 7.5 Minute Quadrangle - Salem, MA.

APPENDIX

SALEM, MASSACHUSETTS

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Danvers River		SL1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Salem	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Debris Line marked with stake and orange ribbon near the 6th hole ladies' tee at Kernwood Country Club. (This point is better than #1.) Highwater elevation is where the stake meets the ground.

5 November 1991	Karen Schofield and John Yen
(Date obtained)	(Obtained by)
Dean Robertson, Golf Course Superintendent (745-7289)	
(Name and address of person pointing out high watermark)	

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

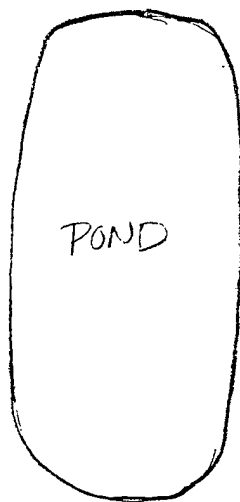
NOTE: Confident Point. Distinct debris line and area is fairly close to shoreline.

Salem Harbor

Wooden Wall

Roadway

ladies'
tec
6th Hole



approx location
X - picture taken
↓ (E direction)

X
↓ stake
w/ orange
ribbon marked
debris line

Tree

SL1

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Salem Harbor		SL2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Salem	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Two orange tags along chainlink fence along road by harbor in Pioneer Village Park. Entrance to park is at the end of West Avenue. The chainlink fence is at the back of the park. Second orange tag approximately 22 inches from ground.

5 November 1991
(Date obtained)

Karen Schofield and John Yen
(Obtained by)

(Name and address of person pointing out high watermark)

Distinct Debris Line on fence
(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
---------------------------	---------	-------------------------	---------

(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
---	---------------	-----------------------

(Elevation determined by)	(Date)	(Order of levels)
---------------------------	--------	-------------------

(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
--------------------------------------	---------------------------------------

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Confident Point. Distinct Line on fence right near shoreline.

Pioneer Village Sign

Baseball
Field.

to 22" from ground

Chain Link Fence

100 ft

Concrete Wall

Boat
Ramp

Salem Harbor

Boat
Edge

6-100 Boat

SLC

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New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Salem Harbor (Juniper Point)		SL3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Salem	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Dirt line along garage doors along Cheval Street and across from #14 (white house). There's an orange ribbon and PK nail on the pole between the 6th and 7th garage doors (from right).

5 November 1991 Karen Schofield and John Yen
(Date obtained) (Obtained by)

(Name and address of person pointing out high watermark)

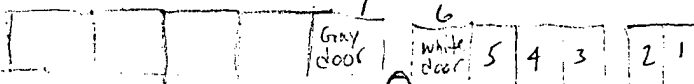
(If not pointed out, how obtained?) (Date and hour of high watermark)
Distinct mark on garage doors and similar debris lines in the area.

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)		(Date & Hour)	(Class. of watermark)
(Elevation determined by)		(Date)	(Order of levels)
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Fairly Confident Point. Distinct line and flooding in the area, but there's a chance it could be from overtopping.

Garage



Cheval St.

Beach Ave

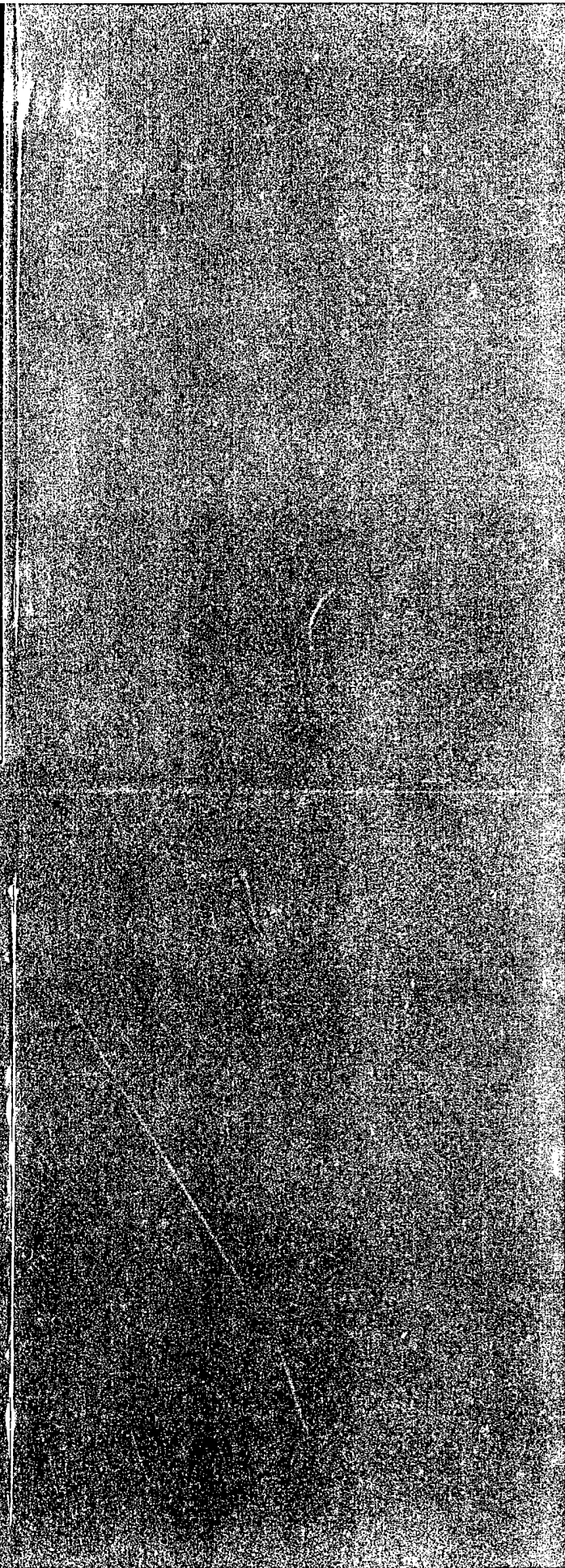
orange tag on pole

CROSS AVE

Yellow House

White House #14

shrubs



Print
File

STYLE
35-8P



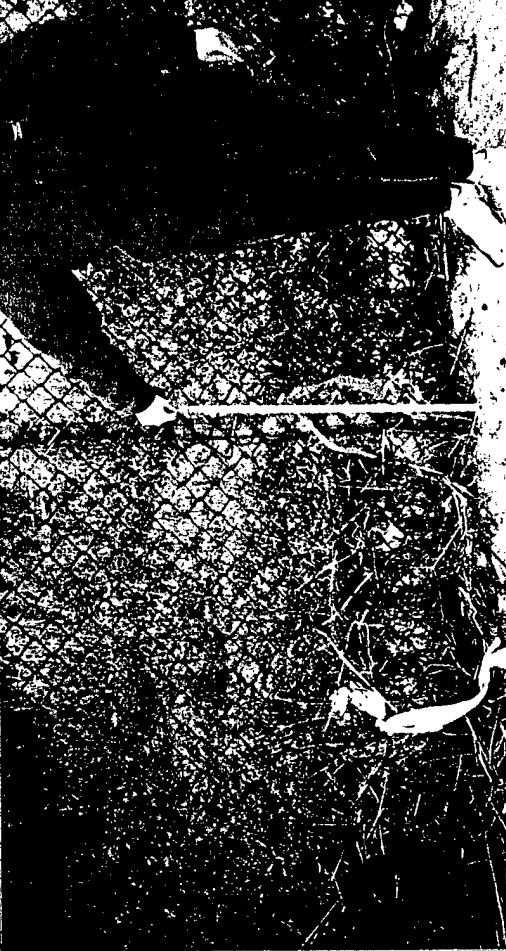
SL3



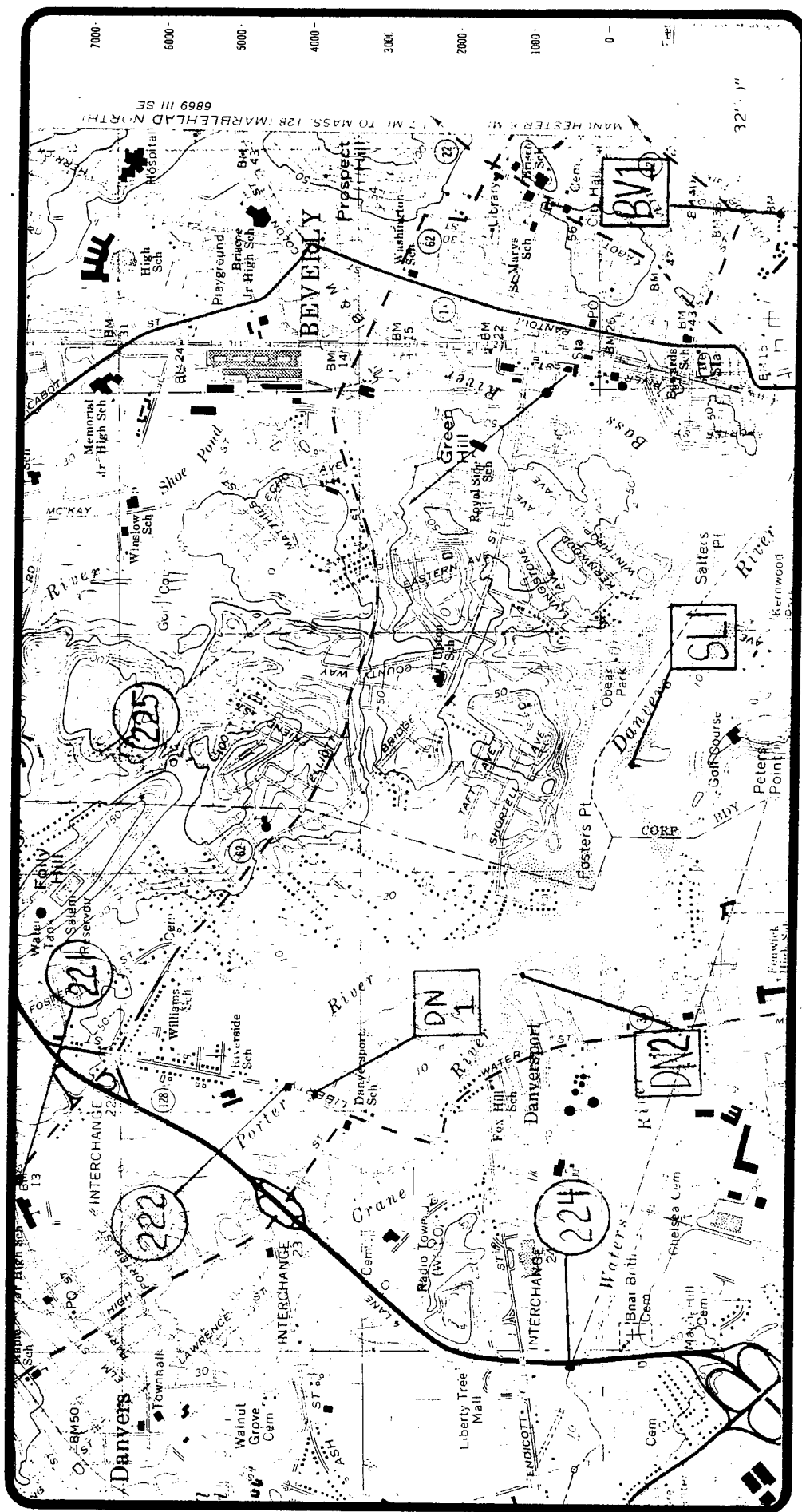
SL3



SL2



SL2

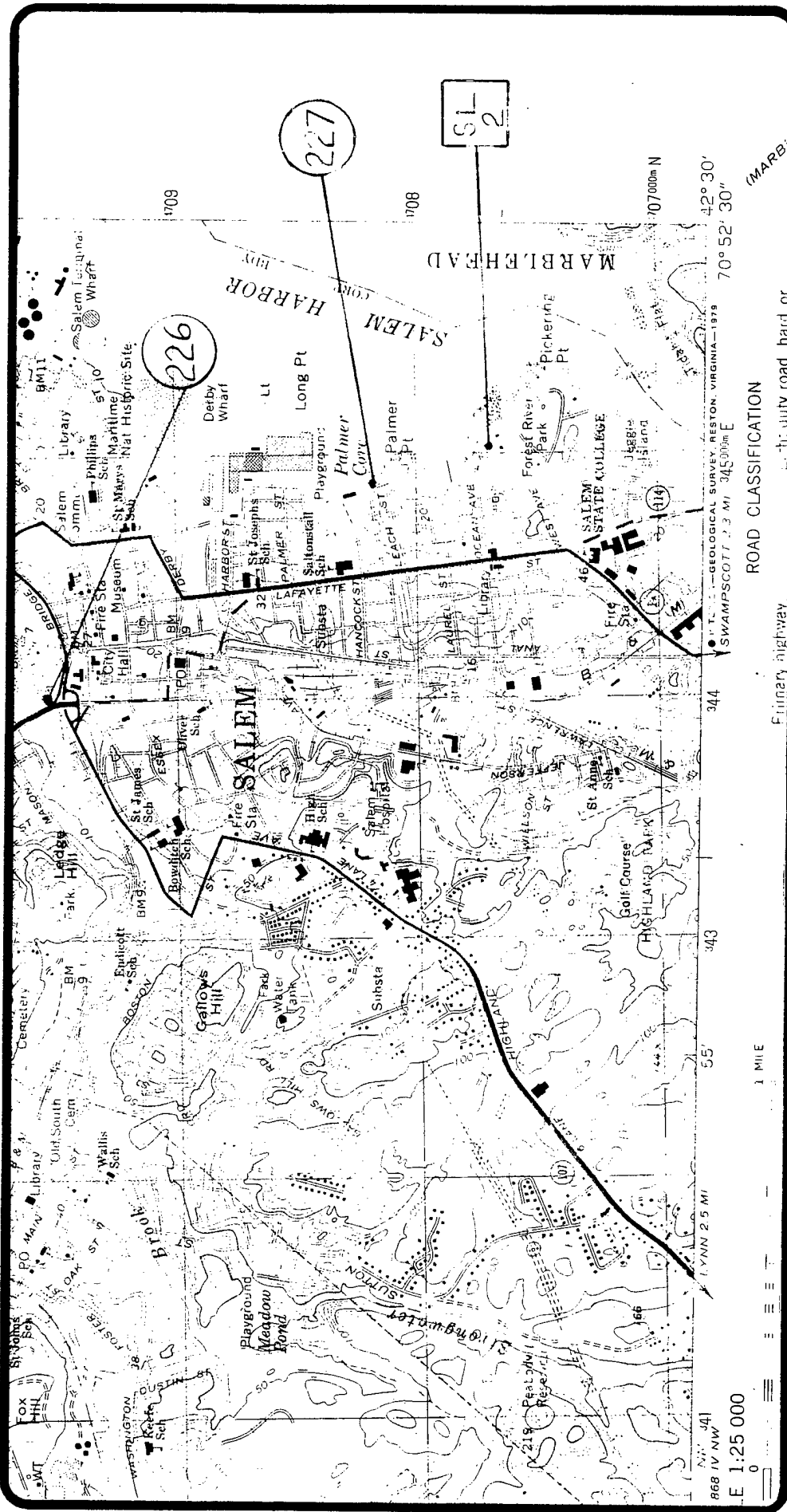


High Water Mark Location Map
Halloween Storm, October, 1991 □ - 1991 ○ - 1978

USGS 7.5 Minute Quadrangle - Salem, MA.



US Army Corps
of Engineers
New England Division



US Army Corps
of Engineers
New England Division

High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Salem, MA.

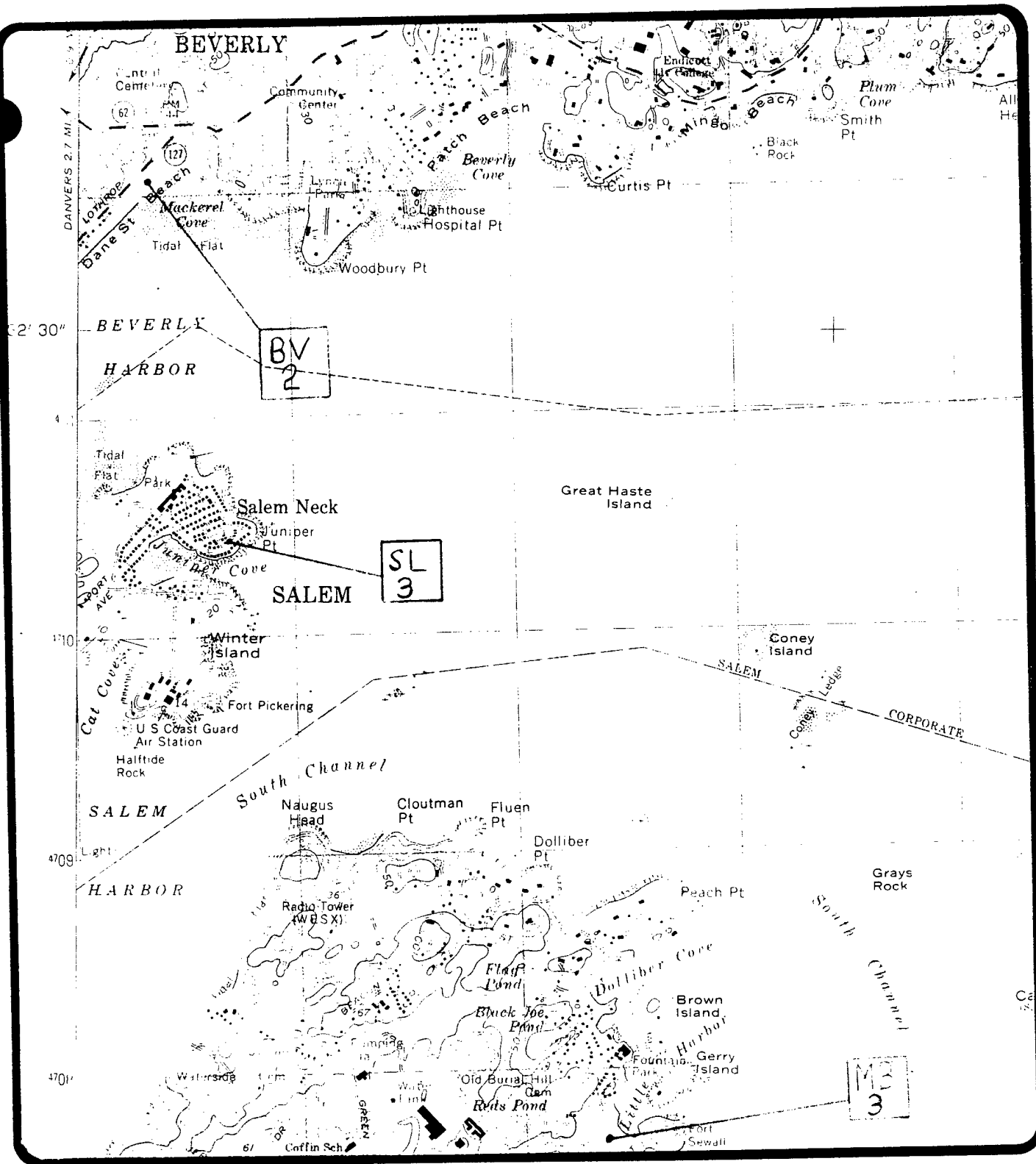
□ - 1991

○ - 1978

ROAD CLASSIFICATION

1 MILE

668 IV NW
E 1:25 000



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Marblehead North, MA.

□ - 1991 ○ - 1978

New England Division



US Army Corps
of Engineers

APPENDIX

MARBLEHEAD, MASSACHUSETTS

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Description of high watermark: Devereux Beach. Two orange ribbons on chainlink fence along right side of road near beach. The 4th and 5th pole from the turnaround are marked behind guardrail (see orange spray paint). Tag on 4th pole is about two feet above sidewalk.

Mr. Robert Hammond, Superintendent Recreation and Parks
(Name and address of person pointing out high watermark)

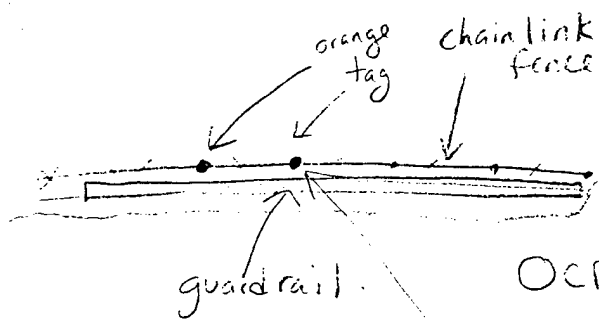
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
--	---------------	-----------------------

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

FORM 203
NED 1 APR 78

OCEAN.

Derereux Beach



tag approx 211
above seawall.

ME

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New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		MB2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Marblehead	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Scum line along house marked by orange ribbon
around tree near the left front corner of house at the intersection of Ocean Avenue
and Flint Street. Line approximately 14 inches from house slab.

4 November 1991	Karen Schofield and John Yen
(Date obtained)	(Obtained by)

John P. Mulderia, 236 Ocean Avenue (owner)

(Name and address of person pointing out high watermark)

	30 October 1991
(If not pointed out, how obtained?)	(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Confident Point. Near shoreline and road appeared to have been flooded.

Flint St

236

Gutter (scum line \approx 14 inches above house slab)
n



Orange Tag on tree

Fence

Ocean Avenue

1982

Atlantic

Ocean

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424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Little Harbor		MB3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Marblehead	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Water height was height of first step in front of
lavender house (approx. 7 inches above walkway). Top of spray paint on stone wall
to left of steps leading to house marks the height.

4 November 1991	Karen Schofield and John Yen
(Date obtained)	(Obtained by)
Mrs. Twaalfhoven (renter), 19 Doaks Lane. Owner: Glover Realty.	
(Name and address of person pointing out high watermark)	

(If not pointed out, how obtained?)	(Date and hour of high watermark)
-------------------------------------	-----------------------------------

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Fairly Confident Point. Renter's word on height but seemed reasonable as
compared to low ground of marina nearby.

Lavender
House
#19.

stonewall.

↑
Orange Spray
Paint on stone wall
on right of steps leading
to house.

Doaks Lane

Marina.

Little
Harbor

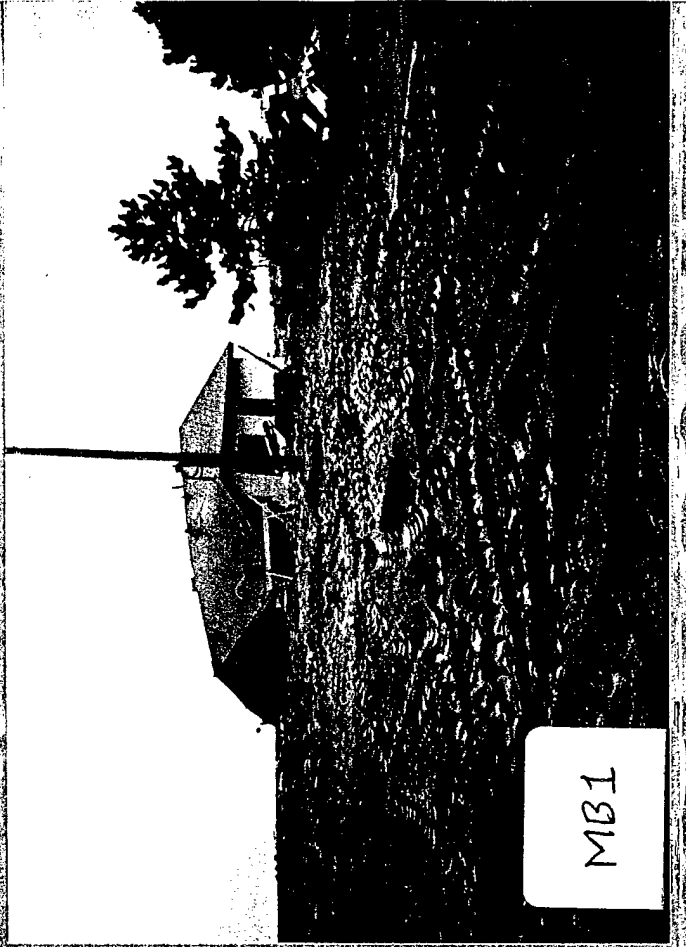
MISS



MB1



MB1



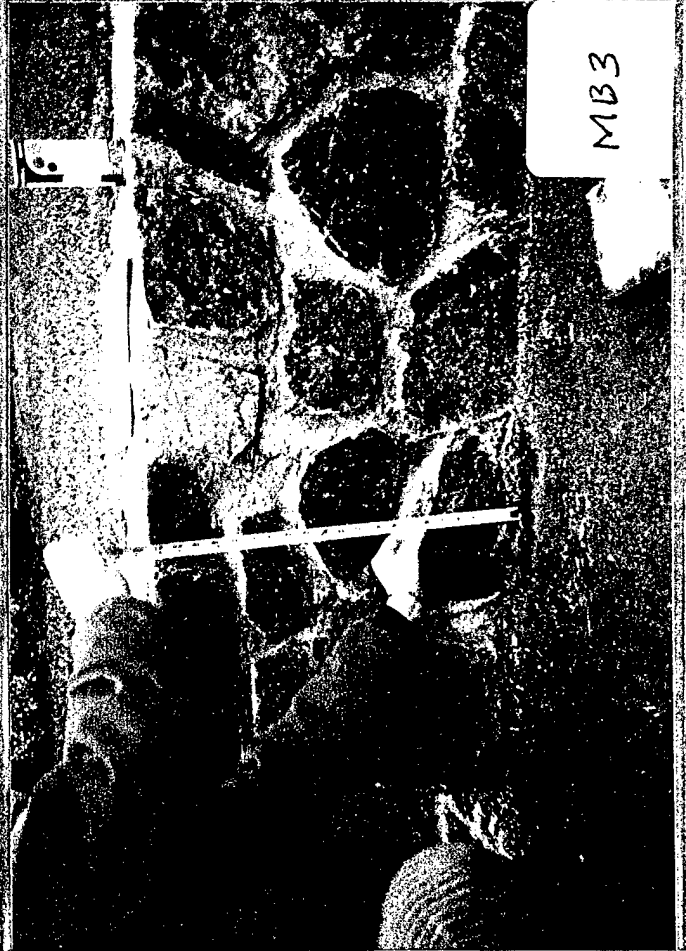
MB1



MB3



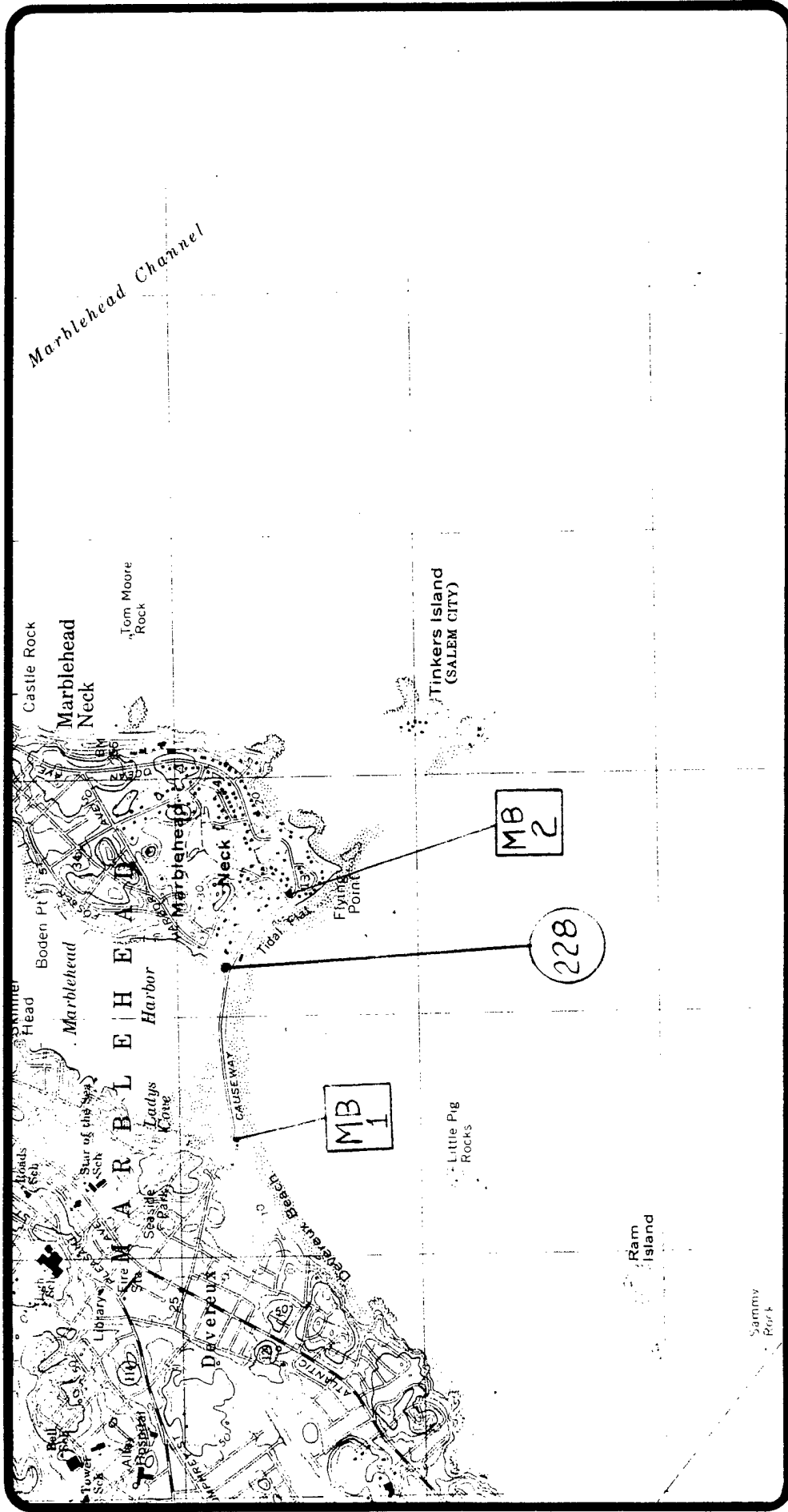
MB2



MB3



MB2



US Army Corps
of Engineers
New England Division

High Water Mark Location Map Halloween Storm, October, 1991



- 1991



- 1978

USGS 7.5 Minute Quadrangle - Marblehead South, MA.

APPENDIX

SWAMPSCOTT AND NAHANT, MASSACHUSETTS

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Nahant Bay

SW1

(Name of River, Bay or Harbor)

(Miles from Mouth)

(Watermark No.)

Swampscott

MA

(Tributary of)

(City or Town)

(State)

Description of high watermark: PK nail with orange ribbon in left side of
2nd garage door (from left). The mark is approximately 17 inches above concrete
slab.

4 November 1991

Karen Schofield and John Yen

(Date obtained)

(Obtained by)

James Dawson, 460 Humphrey Street (garage)

(Name and address of person pointing out high watermark)

Distinct Debris Line inside garage as well as outside.

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

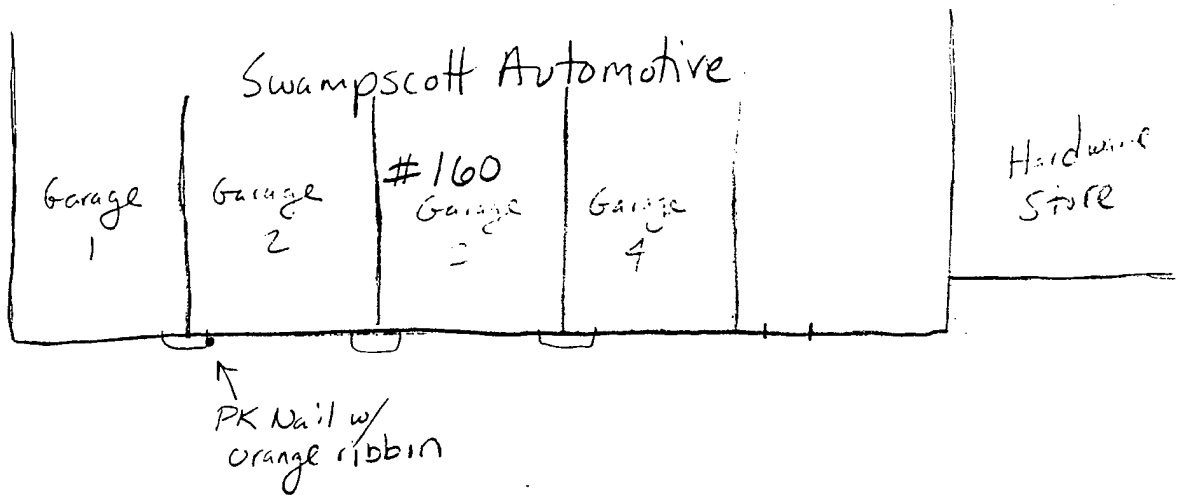
(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Confident Point. Distinct debris line and eyewitness of road flooding.



Humphrey St.

Puritan Rd.

Citgo
Gas
Station

SWI

Nahant
Bay

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Massachusetts Bay

SW2

(Name of River, Bay or Harbor)

(Miles from Mouth)

(Watermark No.)

Swampscott

MA

(Tributary of)

(City or Town)

(State)

Description of high watermark: Orange ribbons along chainlink fence marks debris line. At point "A" type of chainlink changes. At 3rd ribbon from point "A" debris line was approximately 35 inches above sidewalk.

4 November 1991

Karen Schofield and John Yen

(Date obtained)

(Obtained by)

(Name and address of person pointing out high watermark)

Distinct Debris Line along fence

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

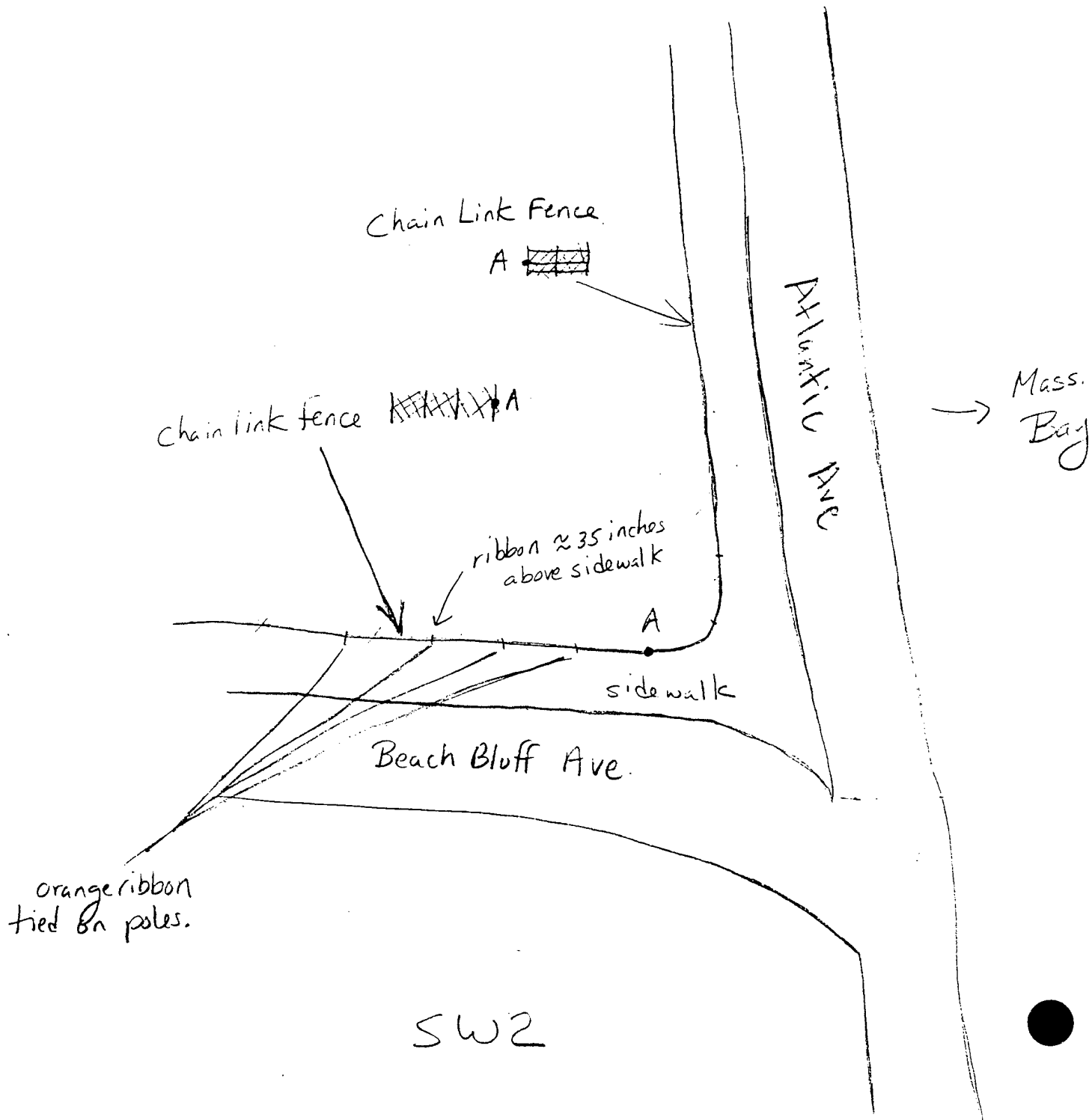
(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Fairly Confident Point. Distinct line and flooding but there's a chance it could be from overtopping nearby seawall.



DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Nahant Bay		SW3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Swampscott	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: PK nail and orange ribbon marks scum line on
stockade fence in back yard. The nail is on the 2nd pole from right corner of
fence. (Water may only be from overtopping and not surge elevation.)

2 November 1991

(Date obtained)

Karen Schofield and Mark Deschenes

(Obtained by)

Richard Cohen, 172 Puritan Road

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

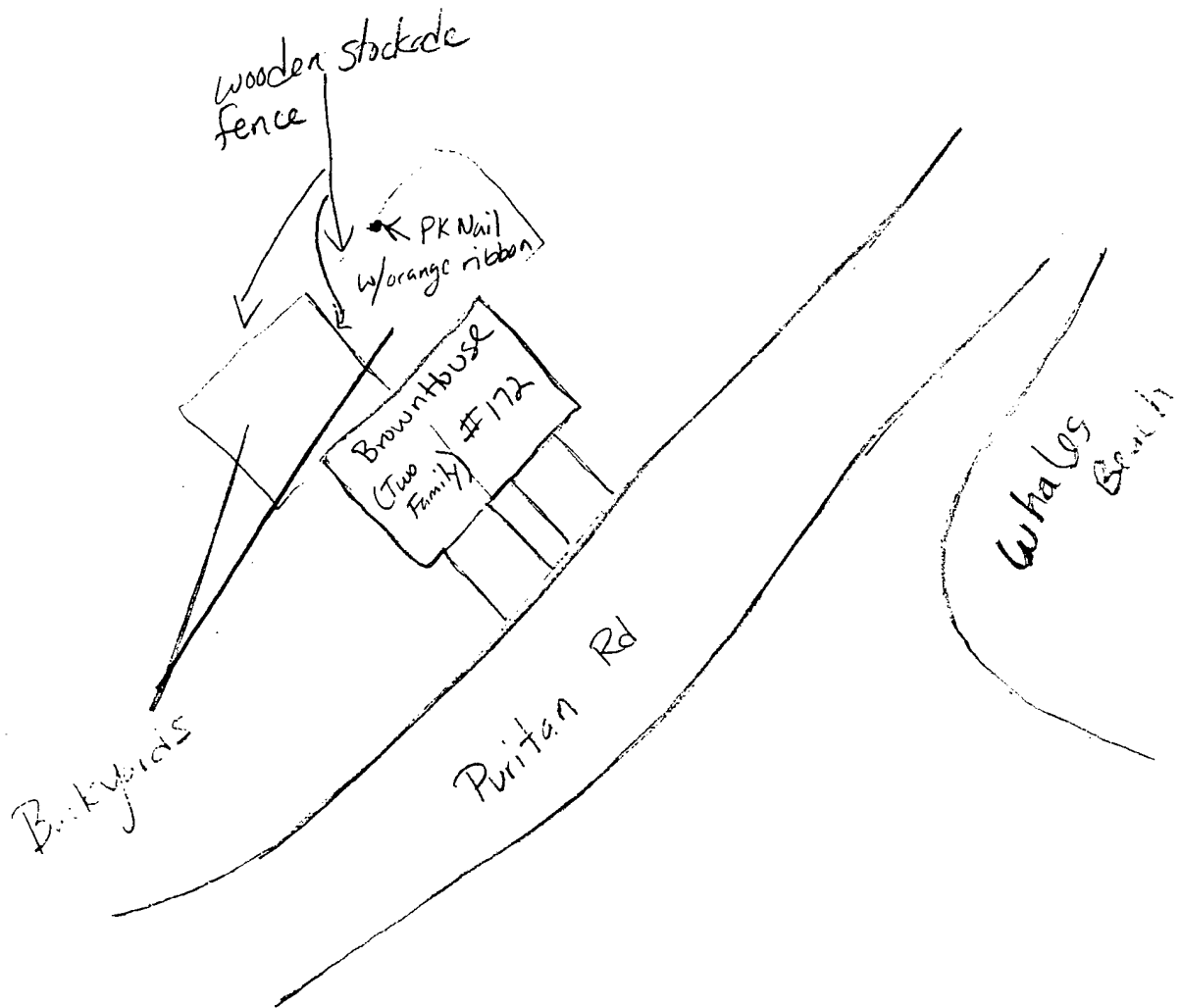
(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Not Very Confident Point. Possible overtopping waters instead of surge
waters.



SW 3

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Massachusetts Bay		SW4
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Swampscott	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Orange stake in between two rocks along roadway near driveway off the corner of Littles Point Road (across from new construction) marks debris line. Highwater mark where stake meets the ground.

2 November 1991

Karen Schofield and Mark Deschenes

(Date obtained)

(Obtained by)

Builder from Timberline Construction pointed to general area of water.

There was a distinct debris line.

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

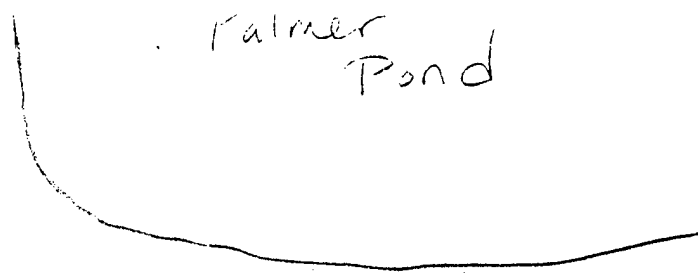
(Order of levels)

(Nearest dam upstream or downstream)

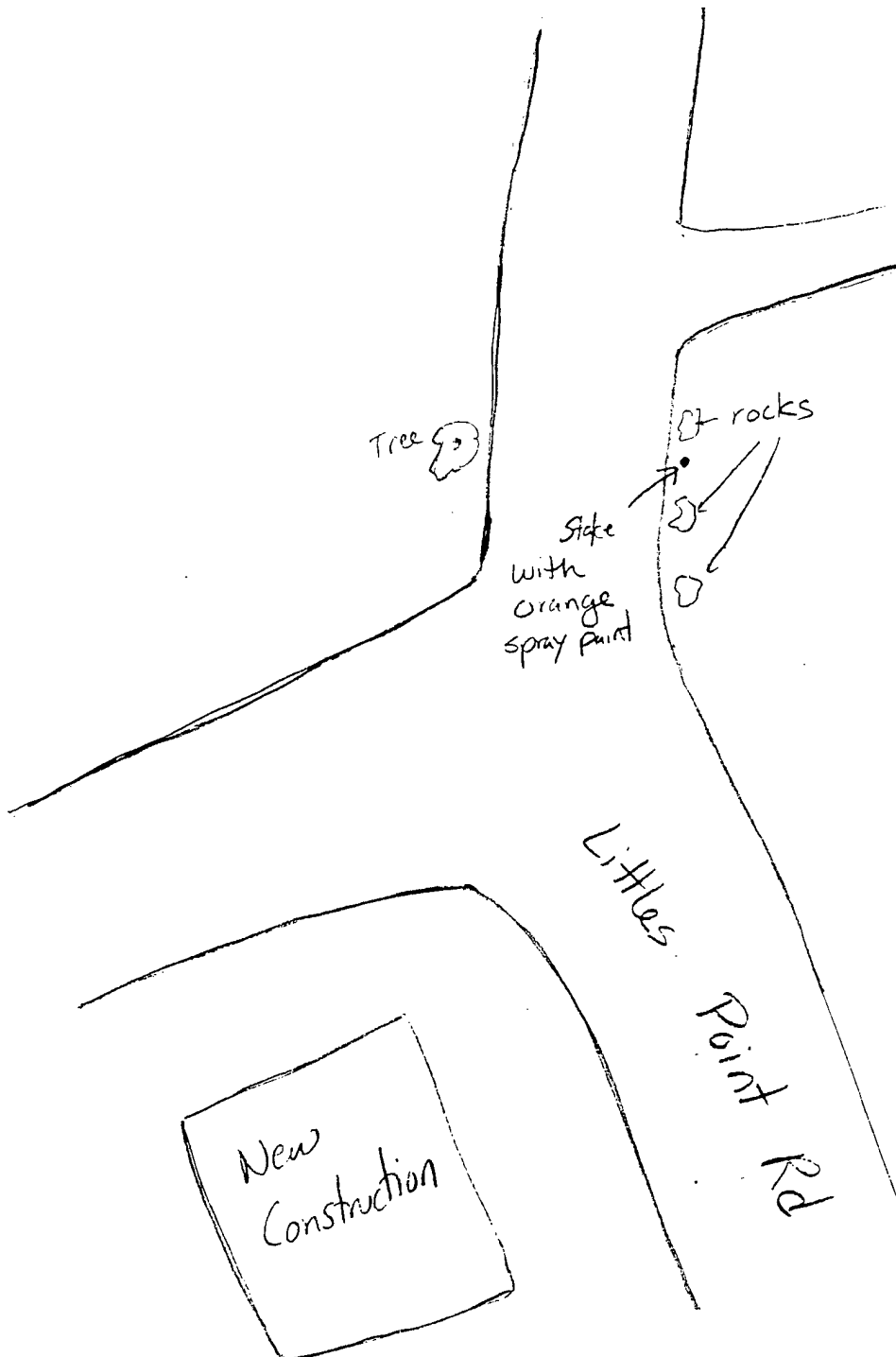
(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Fairly Confident Point. Distinct line with previous flooding.



Wetland



SW 4

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Massachusetts Bay</u>	<u>SW5</u>	
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
<u>Swampscott</u>	<u>MA</u>	
(Tributary of)	(City or Town)	(State)

Description of high watermark: Scum line on green cement blockwall was marked
by orange ribbon on chainlink fence in front of wall. The wall is on the corner
of Shepard Avenue near beach entrance. Ribbon is approximately 75 feet from corner
and approximately 4 feet above sidewalk.

<u>2 November 1991</u>	<u>Karen Schofield and Mark Deschenes</u>
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

<u>(If not pointed out, how obtained?)</u>	<u>(Date and hour of high watermark)</u>
Distinct scum line along chainlink fence and on cement block wall.	

<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>
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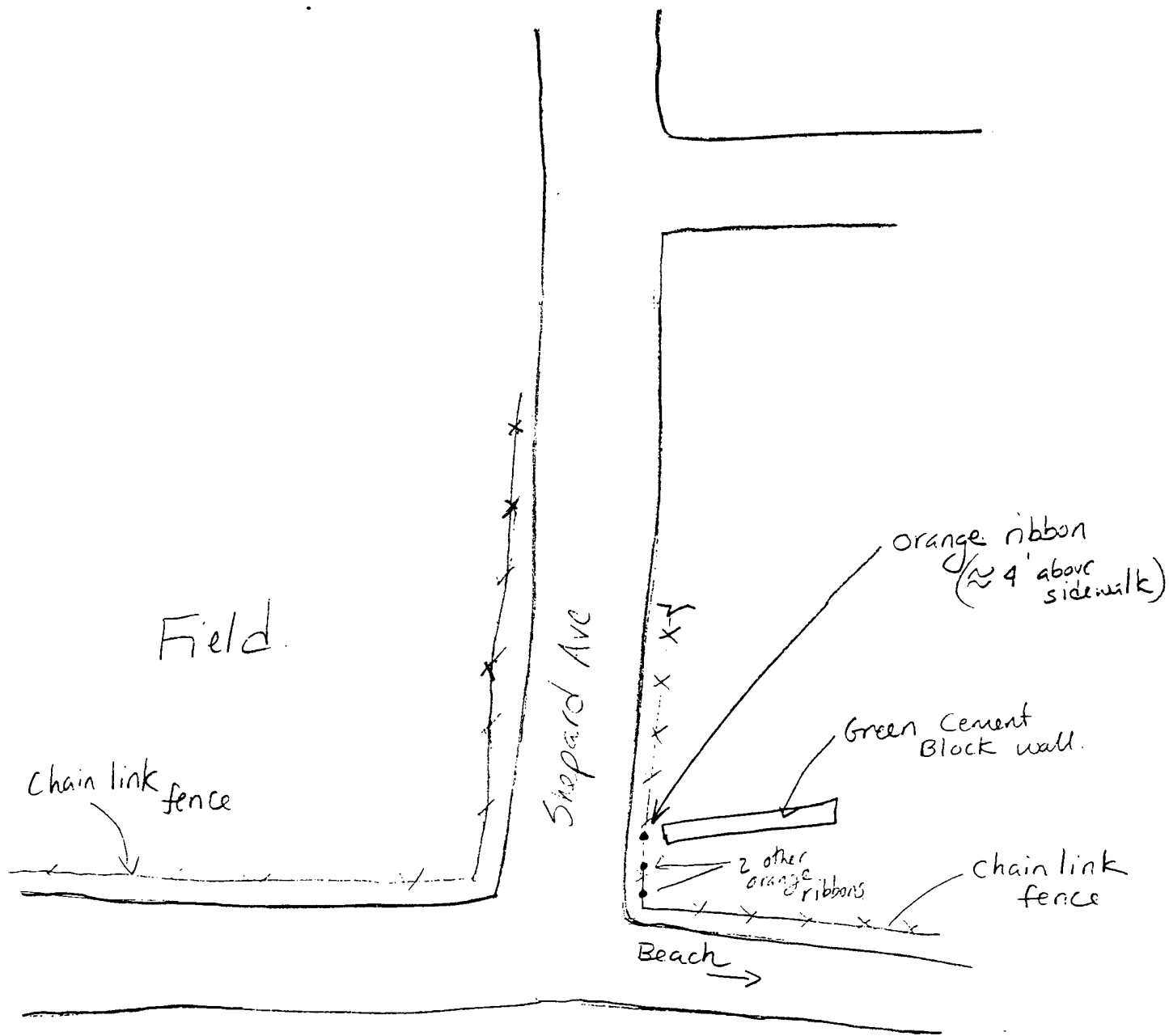
<u>(Elevation of high watermark above water surface)</u>	<u>(Date & Hour)</u>	<u>(Class. of watermark)</u>
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<u>(Elevation determined by)</u>	<u>(Date)</u>	<u>(Order of levels)</u>
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<u>(Nearest dam upstream or downstream)</u>	<u>(Latitude and longitude of watermark)</u>
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NOTE: Confident Point. Near beach and all fences in the area showed some
height of debris line.



SW 5

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Lynn Harbor		NH1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Nahant	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Stake on wall on right side of driveway shows debris line. (However, may only be ponding of water due to overtopping waves rather than tide height.) The stake is approx. 30 feet from edge of road along stonewall.

2 November 1991

(Date obtained)

Karen Schofield and Mark Deschenes

(Obtained by)

Talked to: Craig Mosher Home owner: Anthony Callerco (Craig's wife's cousin)
(Name and address of person pointing out high watermark)

Debris Line along grass

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

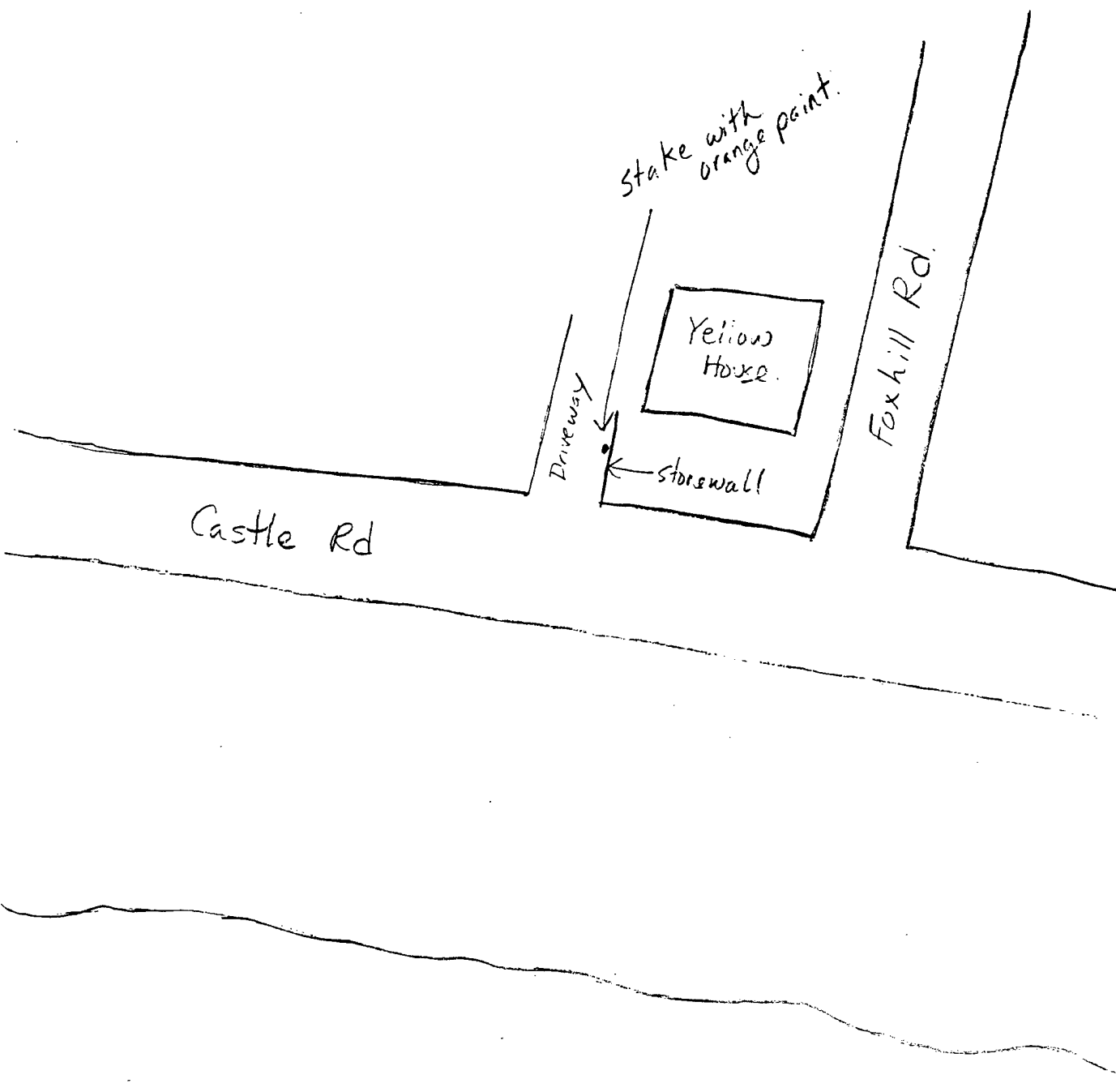
(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

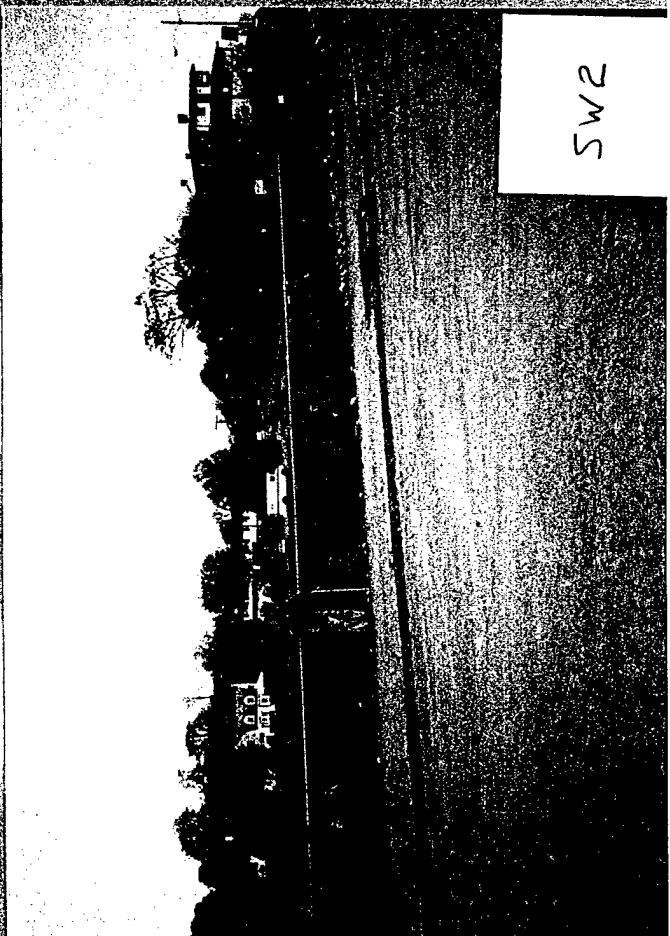
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

NOTE: Not Very Confident Point. Probable overtopped flooding instead of surge waters. Much lower than seawall.



↓
Lynn Harbor

NHI





SW3



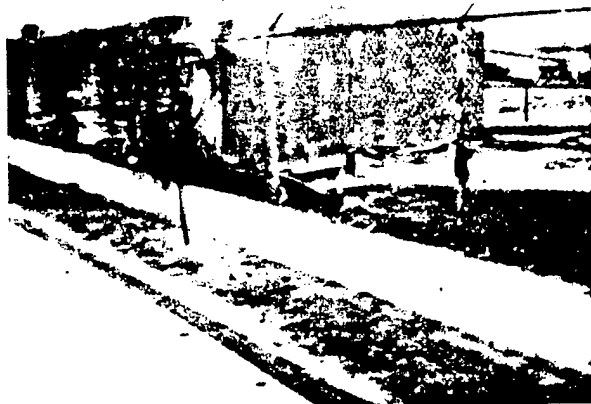
SW3



SW4



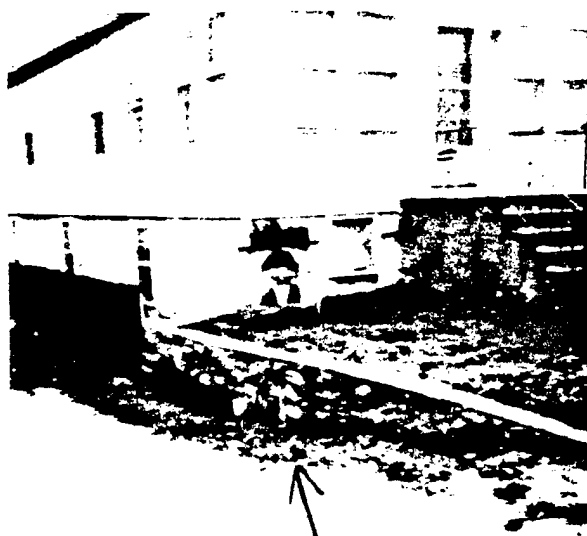
SW4



SW5

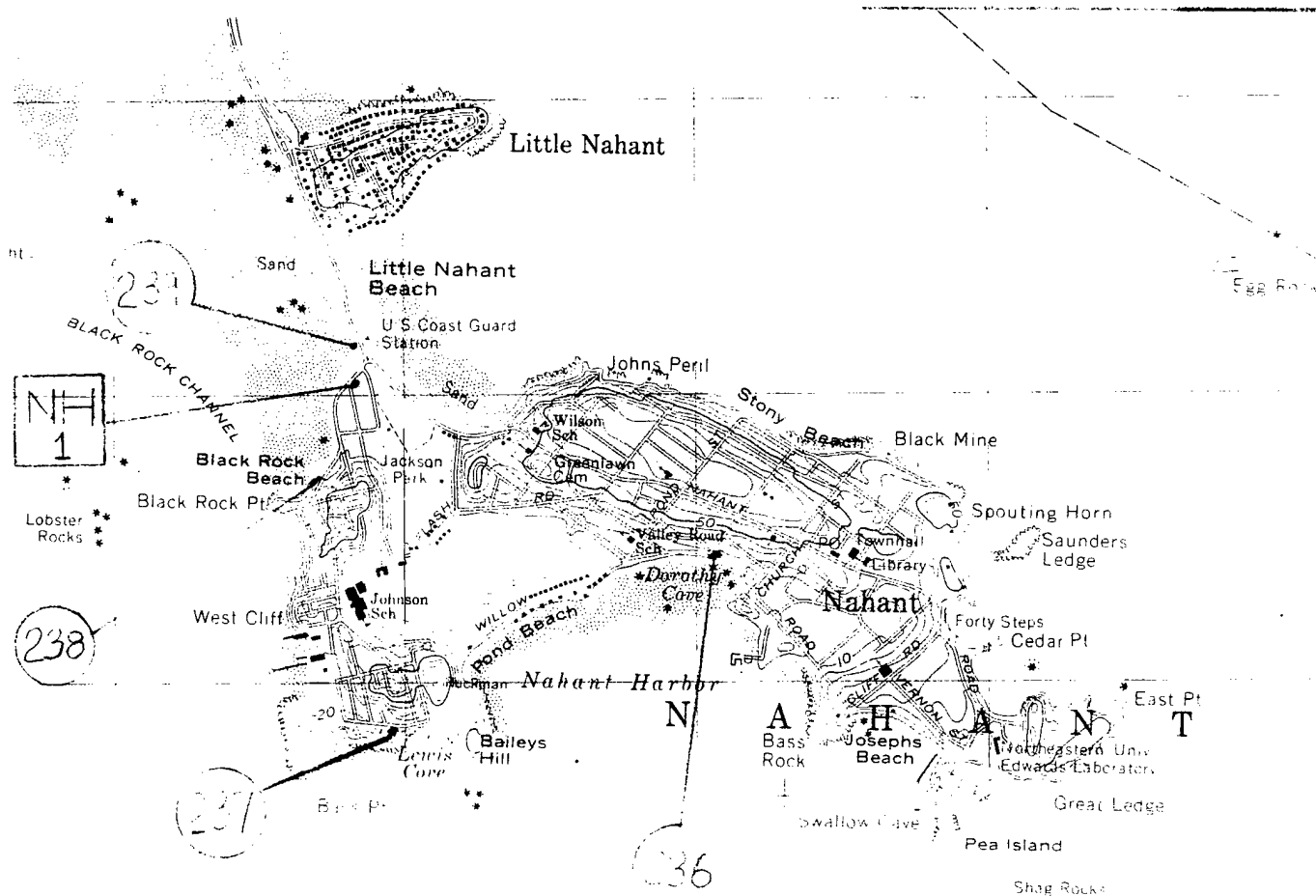


SW5



↑
stake

NH 1



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Lynn, MA.

□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers

APPENDIX

LYNN, MASSACHUSETTS

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		L1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
Near Mouth of Saugus River	Lynn	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Suspected wave action along east bank near
Frederick B. Willis Pier behind Days Inn Hotel. Area staked out, debris line is
inconsistent. Location near Gen. Edwards Bridge.

5 November 1991

Victor Hom and Mark Deschenes

(Date obtained)

(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

Good

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean

(Name of River, Bay or Harbor)

(Miles from Mouth)

L2

(Watermark No.)

Mouth of Saugus River

Lynn

MA

(Tributary of)

(City or Town)

(State)

Description of high watermark: Noticeable debris line running parallel to bank and existing piles. Suspected tide levels. Three sets of stakes are located behind Days Inn Hotel in front of Frederick B. Willis Pier on Rt. 107 (General Edwards Bridge).

5 November 1991

(Date obtained)

Victor Hom and Mark Deschenes

(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

Good

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Saugus River		L3 & L4
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
Mouth of Saugus River	Lynn	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: High water mark located under billboard on southbound side of Rt. 107 right before General Edwards Bridge heading toward Revere. Ribbon attached to fence and stake on ground under billboard.

5 November 1991	Victor Hom and Mark Deschenes
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

Good

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
---------------------------	--------	-------------------

(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

SUBJECT H.W MARK DUE TO OCT 91 FLOOD

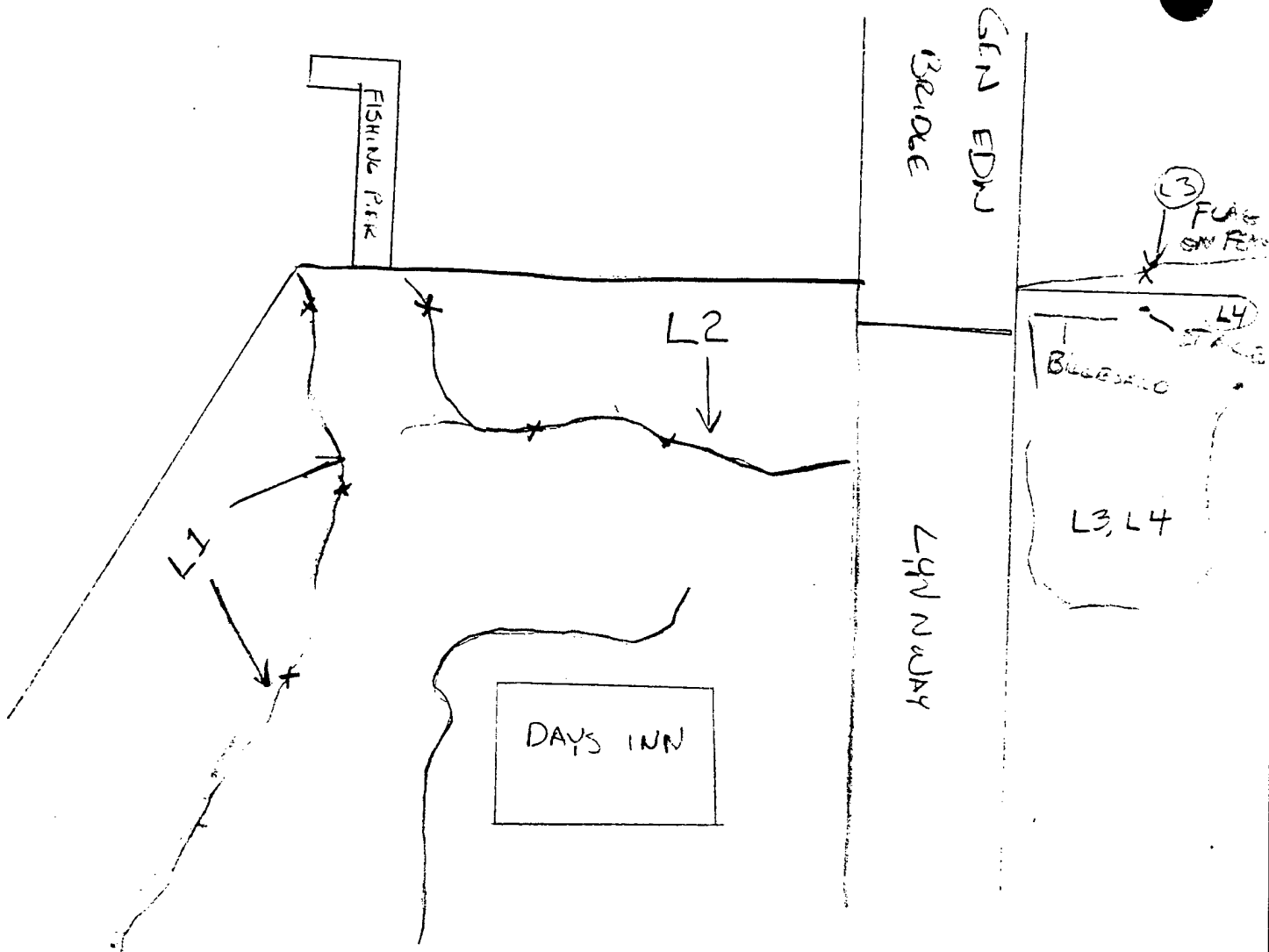
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COMPUTATION SAUGUS RIVER LYNN

COMPUTED BY M. DESCHENES & V. HON

CHECKED BY _____

DATE _____



DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Saugus River		L5 & L6
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Lynn	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: High water marks at end of Cooper Street.

Debris line noticeable along river bank. Total of 4 stacks and paint line.

5 November 1991

(Date obtained)

Victor Hom and Mark Deschenes

(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Saugus River		L7 & L8
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Lynn	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Saugus Yacht Club paint mark on entrance guardrail
and rear left corner of building.

5 November 1991	Victor Hom and Mark Deschenes
(Date obtained)	(Obtained by)
Paul Sekenski, 95 Dearborne Avenue	
(Name and address of person pointing out high watermark)	

Scum Line	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Lynn Harbor		L9
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Lynn	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: 68 Lynnway, Volunteer-Yacht Club, Bill, said that
the water was about 1 foot above yellow curb to the right of yacht club building.
PK nail on dock section to the right of crane.

2 November 1991	Karen Schofield and Mark Deschenes
(Date obtained)	(Obtained by)

Bill Henry (Float Chairman at 68 Lynnway)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour) (Class. of watermark)

(Elevation determined by)

(Date) (Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

27 Sept 49

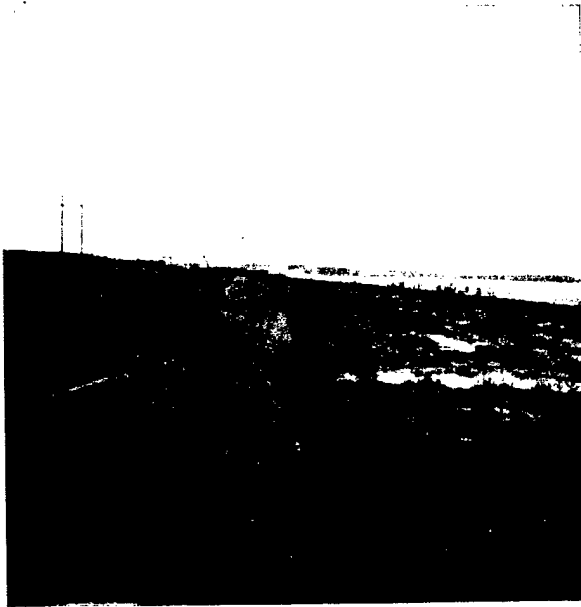
CORPS OF ENGINEERS, U. S. ARMY

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SUBJECT H.W MARK DUE TO OCT 91 FLOODCOMPUTATION SAUGUS RIVER LYNNCOMPUTED BY M. DESCHENES & J. HOM

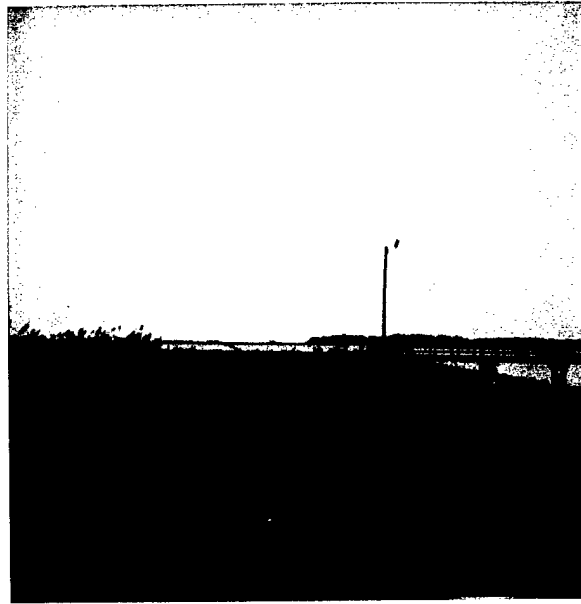
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DATE _____



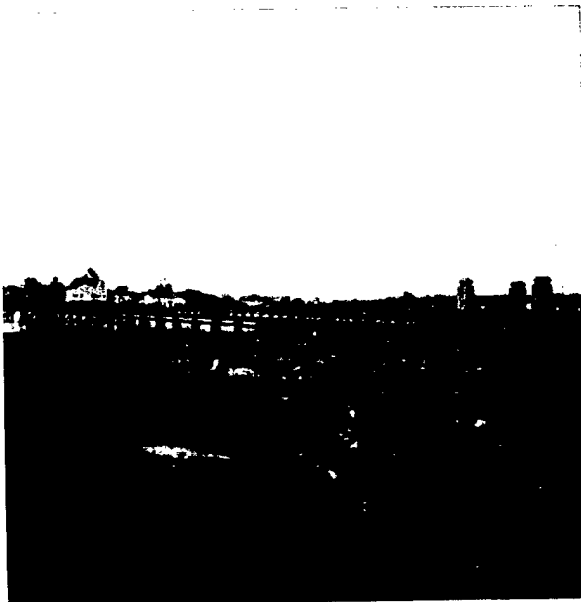
L1

Days Inn / Club Morgan



L2

Days Inn / Club Morgan



L1

Days Inn / Club Morgan



L2

Days Inn / Club Morgan

27 Sept 49

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SUBJECT H.W. MARK DUE TO OCT 91 FLOODCOMPUTATION SAUGUS RIVER LYNNCOMPUTED BY M. DESCHENES & J. HORN

CHECKED BY _____ DATE _____



L3 & L4

Field under bridge @ Rte. 109

27 Sept 49

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SUBJECT H.W. MARK DUE TO OCT 91 FLOOD

COMPUTATION SAUGUS RIVER LYNN

COMPUTED BY M. DESCHENES & J. HORN

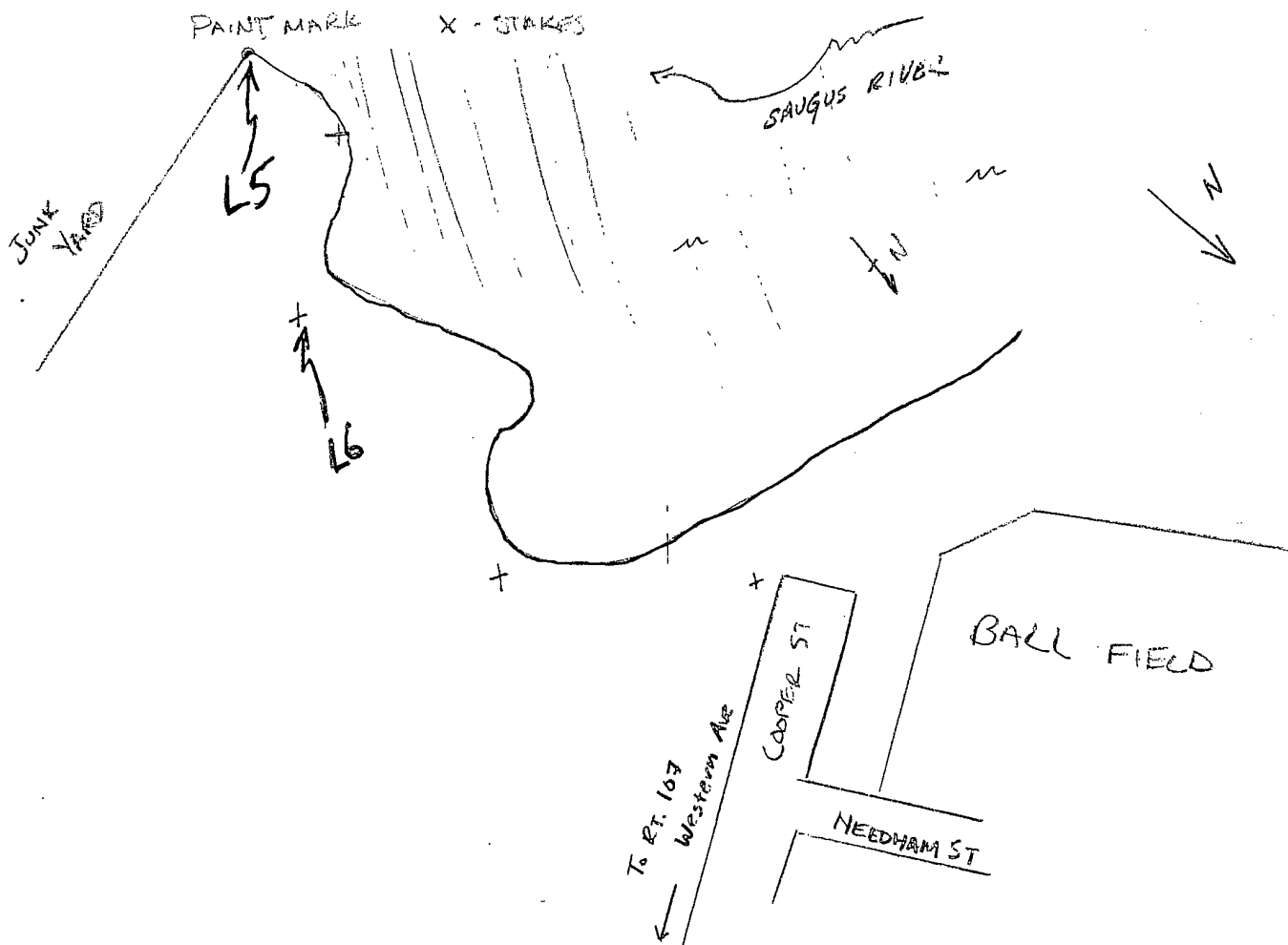
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DATE _____



L6
End of Cooper St.

L6
End of Cooper St.



27 Sept 49

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SUBJECT H.W. MARK DUE TO OCT 91 FLOODCOMPUTATION SAUGUS RIVER LYNNCOMPUTED BY M. DESCHENES & V. HOM CHECKED BY _____ DATE _____

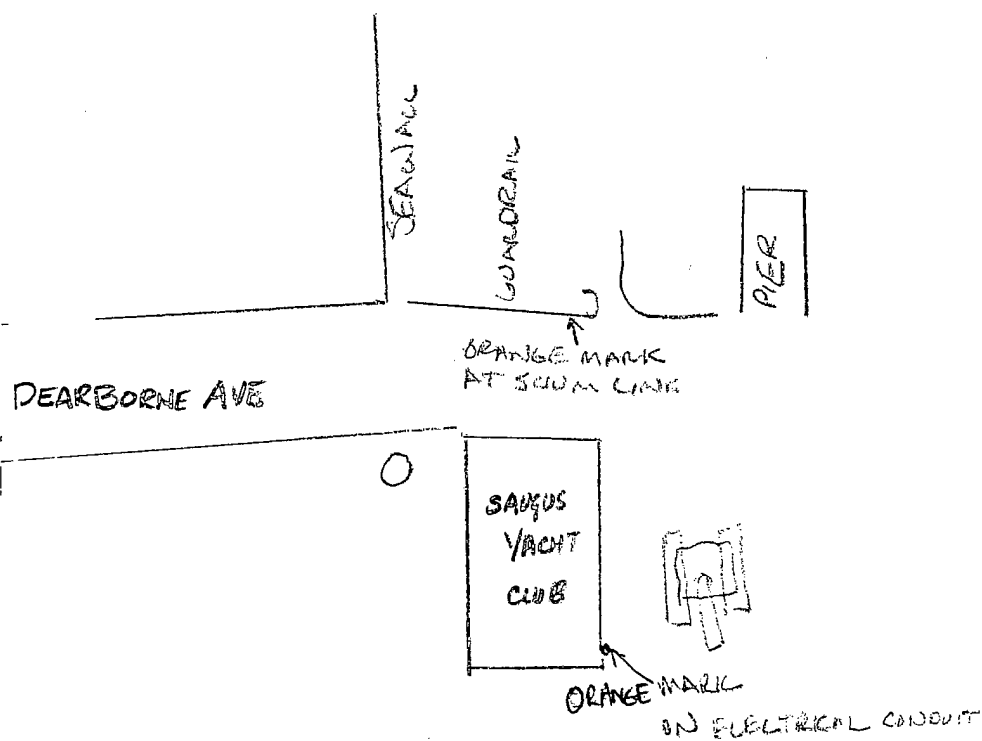
L7

Saugus Yacht Club



L8

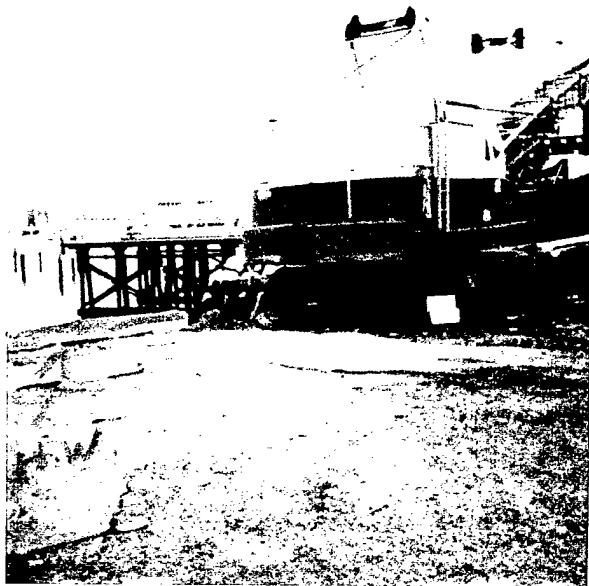
Saugus Yacht Club



27 Sept 49

CORPS OF ENGINEERS, U.S. ARMY

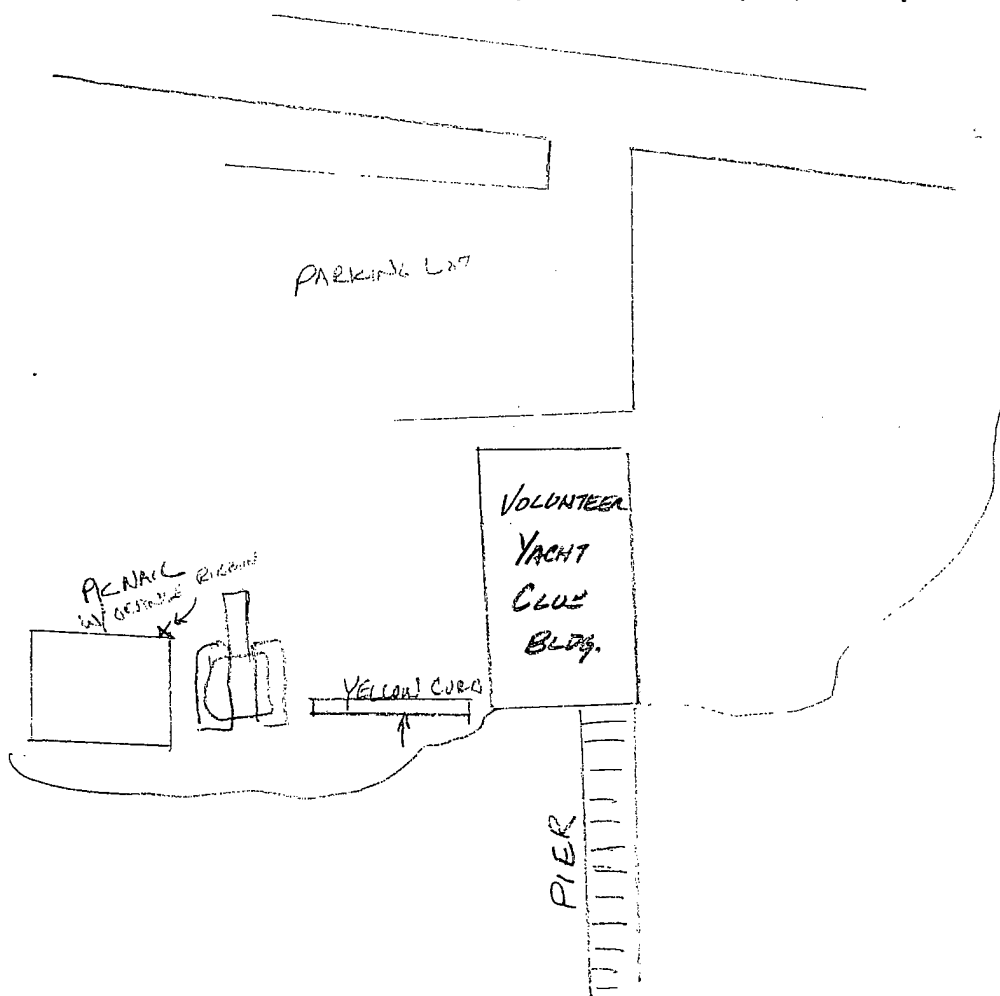
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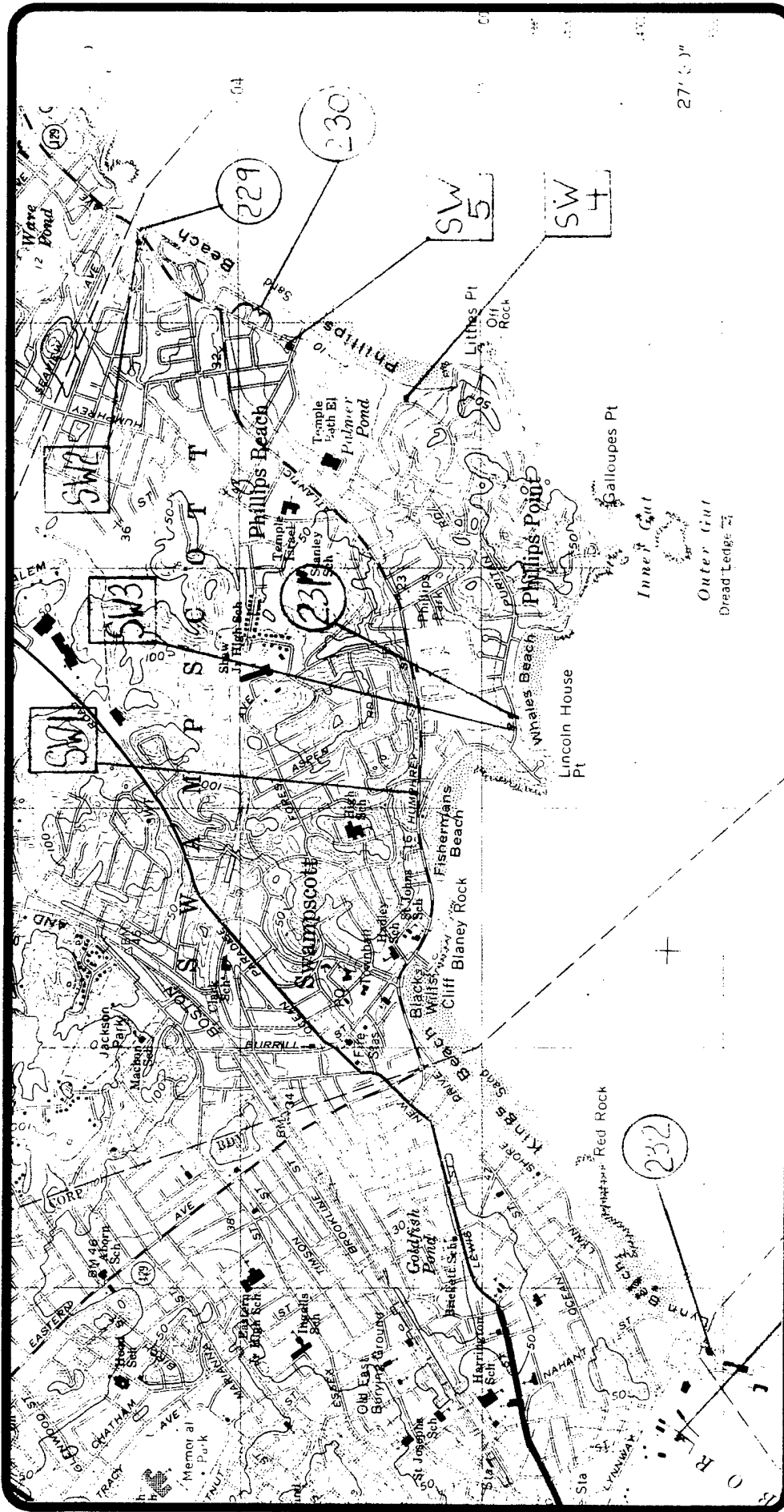
SUBJECT H.W. MARK DUE TO OCT 91 FLOODCOMPUTATION LYNN HARBOR LYNNCOMPUTED BY M. DESCHENES & V. HOW CHECKED BY _____ DATE _____

L9 Lynn Harbor
Volunteer Yacht Club Bldg.



L9 Lynn Harbor
Volunteer Yacht Club Bldg.





US Army Corps
of Engineers
New England Division

High Water Mark Location Map Halloween Storm, October, 1991 □ - 1991 ○ - 1978

USGS 7.5 Minute Quadrangle - Lynn, MA.

APPENDIX
SAUGUS, MASSACHUSETTS

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Pines River, Inland Estuary</u>		SG1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	<u>Saugus</u>	<u>MA</u>
(Tributary of)	(City or Town)	(State)

Description of high watermark: Nailed on garage door frame. Highwater mark due to tidal flow. Site is located at Allstar Fuel Company at end of Hewlett St.

6 November 1991

(Date obtained)

Victor Hom and Mark Deschenes

(Obtained by)

(Name and address of person pointing out high watermark)

Debris Scum Line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour) (Class. of watermark)

(Elevation determined by)

(Date) (Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Saugus River		SG2 and SG3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Saugus	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Highwater mark nailed on piles, two marks with orange ribbon--one on pier off of, and one on pile along Harvard Avenue. Mark checked with level and obvious scum line.

5 November 1991	Victor Hom and Mark Deschenes
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line	
(If not pointed out, how obtained?)	(Date and hour of high watermark)
Good	

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

27 Sept 49

SUBJECT H.W MARK DUE TO OCT 91 FLOOD

COMPUTATION PILES RIVER HWP 1A-3

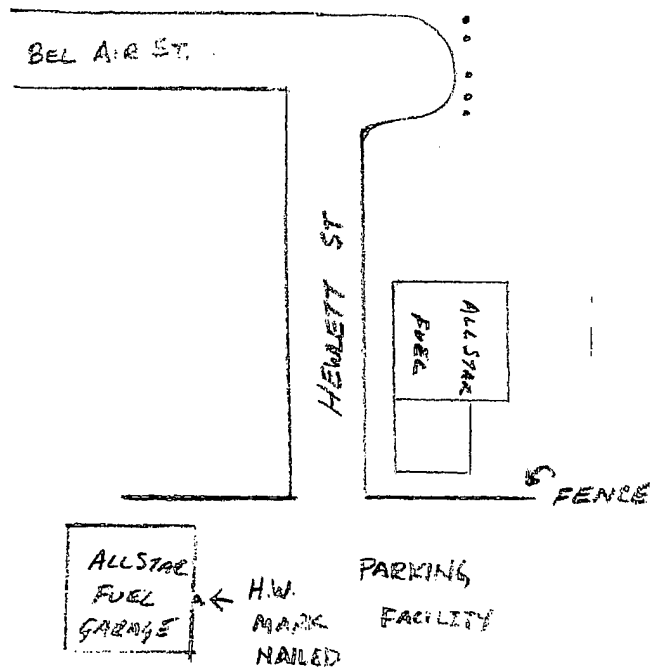
COMPUTED BY M. DESCHENES & J. HORN CHECKED BY _____ DATE _____



SG 1
Allstar Fuel - Hewlett St.

EM Co.

I-95 FILL
EMBANKMENT



27 Sept 49

CORPS OF ENGINEERS, U.S. ARMY

PAGE _____

SUBJECT H.W MARK DUE TO OCT 91 FLOOD

COMPUTATION SAGUAS RIVER WAL #3A-1

COMPUTED BY M. DESCHENES & J. HON CHECKED BY _____ DATE _____



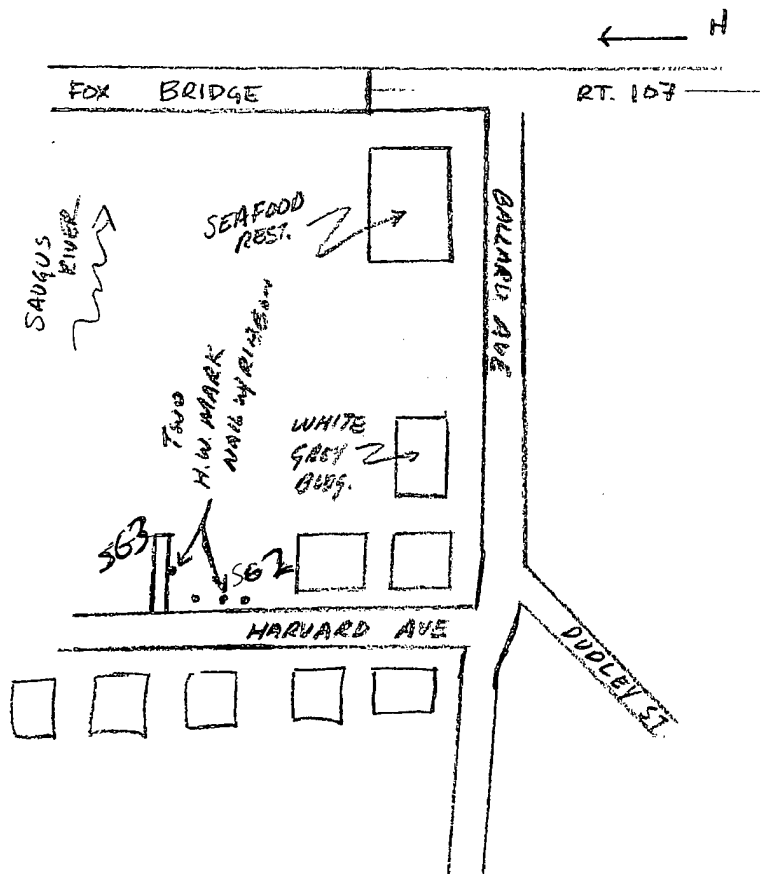
SG2 & SG3

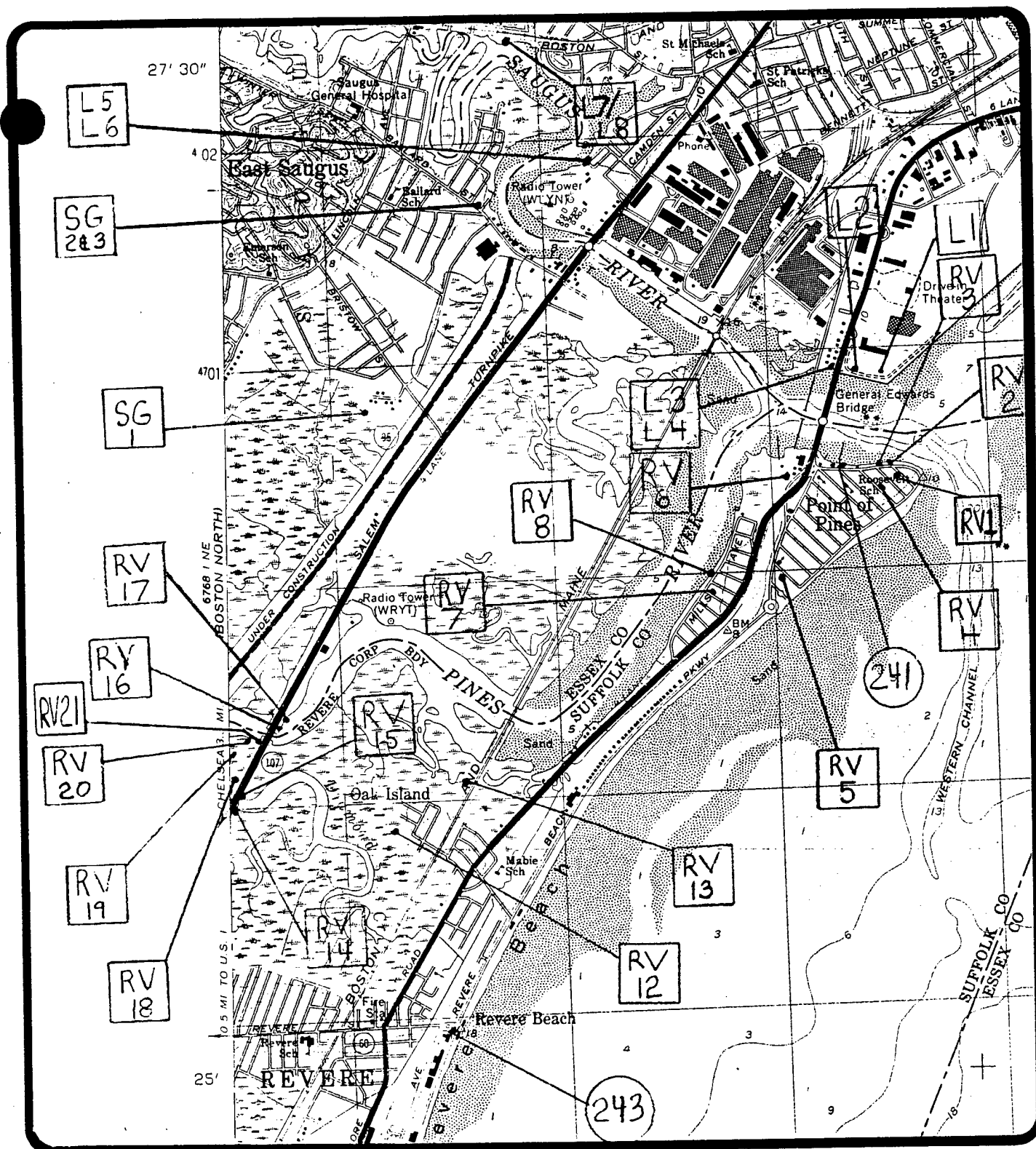
Pier Piling @ Harvard Ave.



SG2 & SG3

Looking SE @ Harvard Ave.





High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Lynn, MA.

□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers

APPENDIX
REVERE, MASSACHUSETTS

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		RV1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Revere (Point of Pines)	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: 21 Wadsworth Avenue, definite scum line along back of foundation. Orange paint mark on left rear corner of foundation approx. 2' above driveway elevation.

2 November 1991

(Date obtained)

M. Deschenes and Karen Schofield

(Obtained by)

Daniel Kinsella, 21 Wadsworth Avenue

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

Good Mark

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark above water surface)

(Date & Hour) (Class. of watermark)

(Elevation determined by)

(Date) (Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Mouth of Saugus River

RV2 & RV3

(Name of River, Bay or Harbor)

(Miles from Mouth)

(Watermark No.)

Revere (Point of Pines)

MA

(Tributary of)

(City or Town)

(State)

Description of high watermark:

Debris line along backside of seawall on Rice Avenue

at Point of Pines. Stakes along debris with paint lines along seawall starting
from Bateman Avenue to Wadsworth Avenue.

4 November 1991

(Date obtained)

Mark Deschenes and Victor Hom

(Obtained by)

(Name and address of person pointing out high watermark)

Noticed debris along wall

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		RV4
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Revere (Point of Pines)	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: 22 Fowler St, PK mail on stockade fence in backyard.
5th pole from right corner, approx. 2' above ground elevation, definitive scum
line.

2 November 1991

Mark Deschenes and Karen Schofield

(Date obtained)

(Obtained by)

Brian Redholz, 22 Fowler Street

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

Good Mark

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean

RV5

(Name of River, Bay or Harbor)

(Miles from Mouth)

(Watermark No.)

Revere (Point of Pines)

MA

(Tributary of)

(City or Town)

(State)

Description of high watermark: 21 Harrington Avenue, PK nail in post of stockade fence at definitive scum line. Behind the house 2nd pole from the front corner on the right hand side, approx 16" above ground elevation.

2 November 1991

Mark Deschenes and Karen Schofield

(Date obtained)

(Obtained by)

Levitt, 21 Harrington Avenue

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

Good Mark

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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New England Division, Corps of Engineers
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Pines River RV6
(Name of River, Bay or Harbor) (Miles from Mouth) (Watermark No.)
Revere (Point of Pines) MA
(Tributary of) (City or Town) (State)

Description of high watermark: Lynnway Rt. 1A, Fowler Marine, PK nail at front
corner of fence in parking lot. Nail on post next to small light house.

2 November 1991 M. Deschenes and Karen Schofield
(Date obtained) (Obtained by)

Bill, Fowler Marine

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?) (Date and hour of high watermark)

(Elev. of high watermark) (Datum) (Benchmark referred to) (Datum)

(Elevation of high watermark above water surface) (Date & Hour) (Class. of watermark)

(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Pines River		RV7	
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)	
	Revere	MA	
(Tributary of)	(City or Town)	(State)	
Description of high watermark: 29 Gilbert Avenue, mark on curbstone below telephone pole 3816. Scum line along curb. Owner says water never topped curbstone.			
2 November 1991	Mark Deschenes and Karen Schofield		
(Date obtained)	(Obtained by)		
Rob Lauro, 29 Gilbert Avenue			
(Name and address of person pointing out high watermark)			
(If not pointed out, how obtained?)	(Date and hour of high watermark)		
Good			
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)			

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Pines River</u>	<u>RV8</u>
(Name of River, Bay or Harbor)	(Watermark No.)
<u>Revere</u>	<u>MA</u>
(City or Town)	(State)
<u>(Tributary of)</u>	

Description of high watermark: Debris line along Mill Street and Saugus River.

6 November 1991

(Date obtained)

Vic Hom and Mark Deschenes

(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		RV9
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Revere (Roughans Pt.)	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Nail indicating top of definite scum line at
176 BROADSOUND AVENUE. Nail located in center column at front stairs.

4 November 1991	Victor Hom
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Noticed while surveying area (If not pointed out, how obtained?)	(Date and hour of high watermark)
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Good

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean

RV10

(Name of River, Bay or Harbor)

(Miles from Mouth)

(Watermark No.)

Revere (Roughans Pt.)

MA

(Tributary of)

(City or Town)

(State)

Description of high watermark: 125 Broadsound Avenue, scum line along side of building. Ribbon was placed on the gutter pipe on the front left corner of the house.

2 November 1991

Mark Deschenes and Karen Schofield

(Date obtained)

(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

Good Point

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		RV11
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Revere (Roughans Pt.)	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: 86 Broadsound Avenue, orange paint mark on corner of house foundation indicating top scum line approx. 41" from (street elevation) driveway.

2 November 1991
(Date obtained)

Mark Deschenes and Karen Schofield
(Obtained by)

Stephen Kramer, 86 Broadsound Avenue
(Name and address of person pointing out high watermark)

Good
(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum) (Benchmark referred to) (Datum)

(Elevation of high watermark above water surface) (Date & Hour) (Class. of watermark)

(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

27 Sept 49

SUBJECT _____

HIGHWATER MARK DUE TO OCT. 1991

COMPUTATION _____

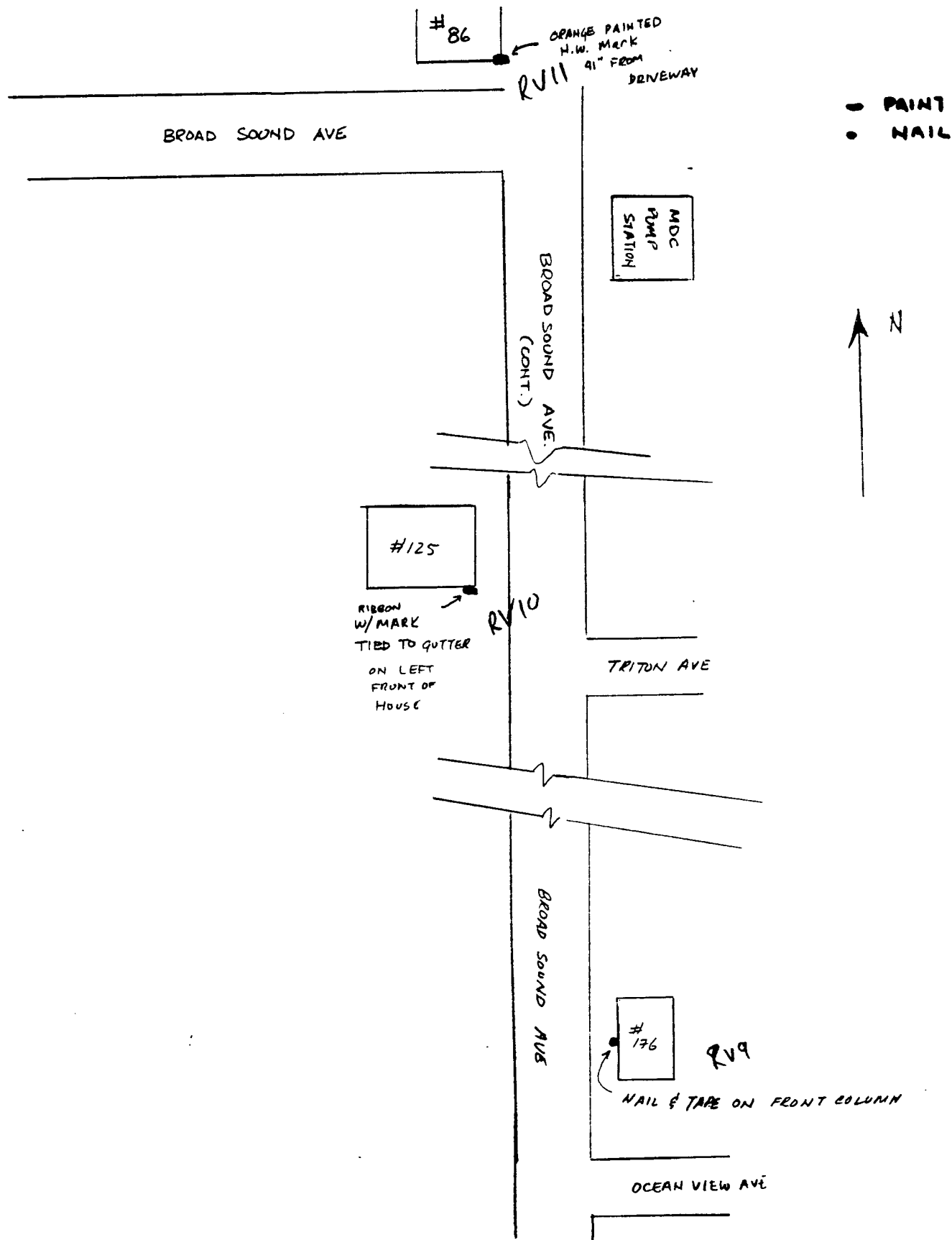
ROUGHANS POINT

COMPUTED BY VICTOR HAM & MARK DEHNENES

CHECKED BY _____

DATE _____

11/5/91



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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Pines River		RV12
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Revere	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Debris line along salt marsh. Stake driven at debris line behind abandoned house at corner of Bridge Street and Flint Street.

6 November 1991	Victor Hom and Mark Deschenes
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

Good

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Saugus River		RV13
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Revere	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Paint mark on railroad fence. Highwater mark
at top of paint line. Location accessible at end of Woodland Road.

7 November 1991

(Date obtained)

Victor Hom and Mark Deschenes

(Obtained by)

(Name and address of person pointing out high watermark)

Scum Line on fence

(If not pointed out, how obtained?)

(Date and hour of high watermark)

Good

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
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Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Diamond Creek		RV14 & RV15
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
Pines River	Revere	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Highwater line marked on bridge abutment facing east. Debris line is a definitive marker Rt. 107 Northbound.

4 November 1991

(Date obtained)

Victor Hom and Mark Deschenes

(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Pines River		RV16 & RV17
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Saugus/Revere Line	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Debris line along estuary on east bank of Rt. 107.
Stakes along waterline. Rt. 107 Northbound, south of Atlantic Lobster Company.

4 November 1991

Victor Hom, Mark Deschenes

(Date obtained)

(Obtained by)

(Name and address of person pointing out high watermark)

Debris Lines

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
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Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Diamond Creek
(Name of River, Bay or Harbor) (Miles from Mouth) RV18, RV19, & RV20
(Watermark No.)
Pines River
(Tributary of) Revere/Saugus
(City or Town) (State)

Description of high watermark: Definitive debris line along grass and abutment structure on Rt. 107 South near H. C. Troll Lobster. Highwater line is formed by marks including nail, spray painted guard rail and stakes (see map).

4 November 1991 Victor Hom and Mark Deschenes
(Date obtained) (Obtained by)

(Name and address of person pointing out high watermark)

Debris Line

(If not pointed out, how obtained?) (Date and hour of high watermark)

(Elev. of high watermark) (Datum) (Benchmark referred to) (Datum)

(Elevation of high watermark above water surface) (Date & Hour) (Class. of watermark)

(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

27 Sept 49

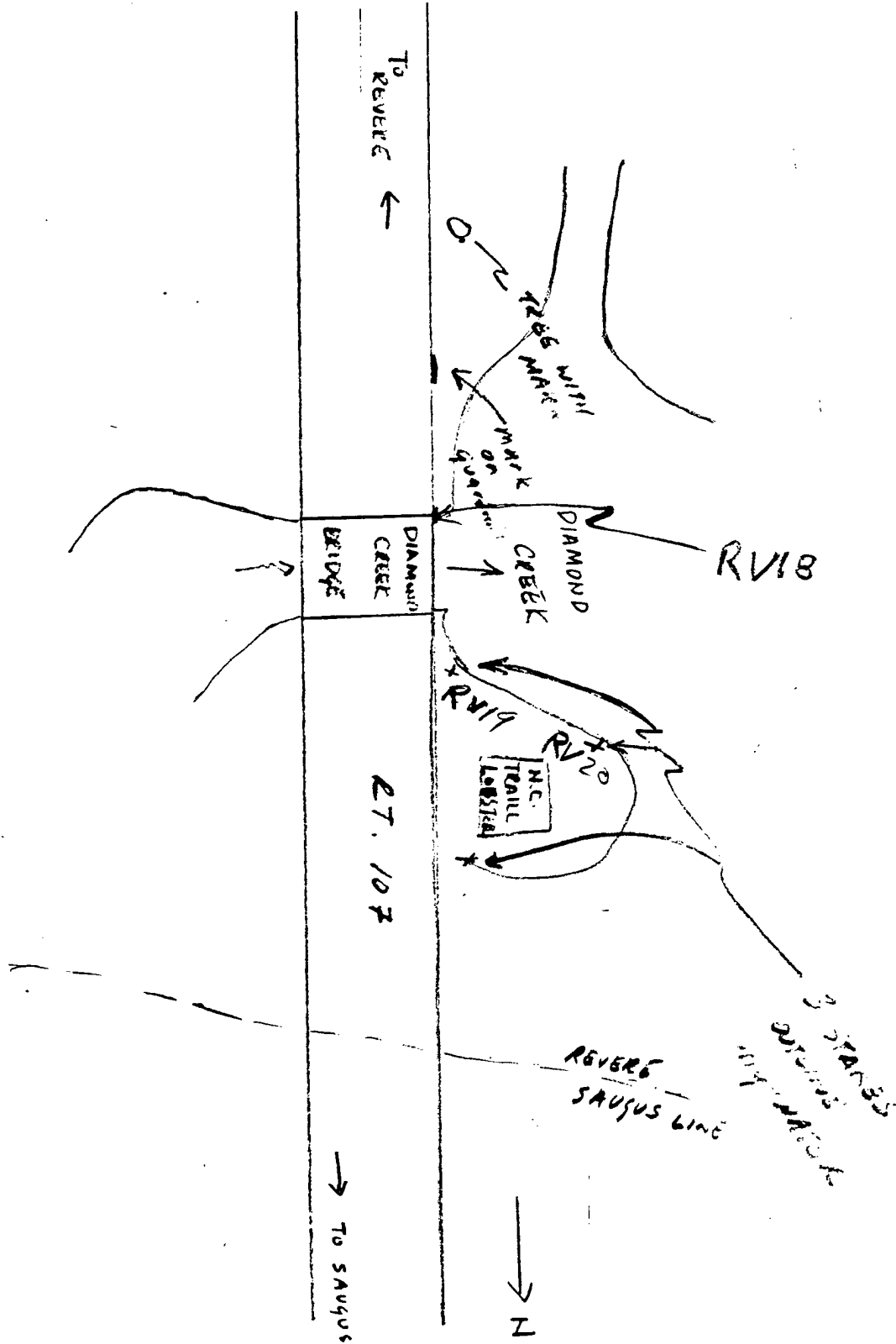
CORPS OF ENGINEERS, U.S. ARMY

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SUBJECT H.W MARK DUE TO OCT 91 FLOOD

COMPUTATION DIAMOND CREEK

COMPUTED BY M. DESCHENES & J. HOM CHECKED BY _____ DATE _____



DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Pines River		RV21
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Saugus/Revere	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Definitive high water mark, debris line along stone rip rap, abutment, and grass along Rt. 107 South. Stakes and paint on guard rail.

4 November 1991	Victor Hom and Mark Deschenes
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Debris Line

(If not pointed out, how obtained?)	(Date and hour of high watermark)
-------------------------------------	-----------------------------------

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
---------------------------	---------	-------------------------	---------

(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
---	---------------	-----------------------

(Elevation determined by)	(Date)	(Order of levels)
---------------------------	--------	-------------------

(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
--------------------------------------	---------------------------------------

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

27 Sept 49

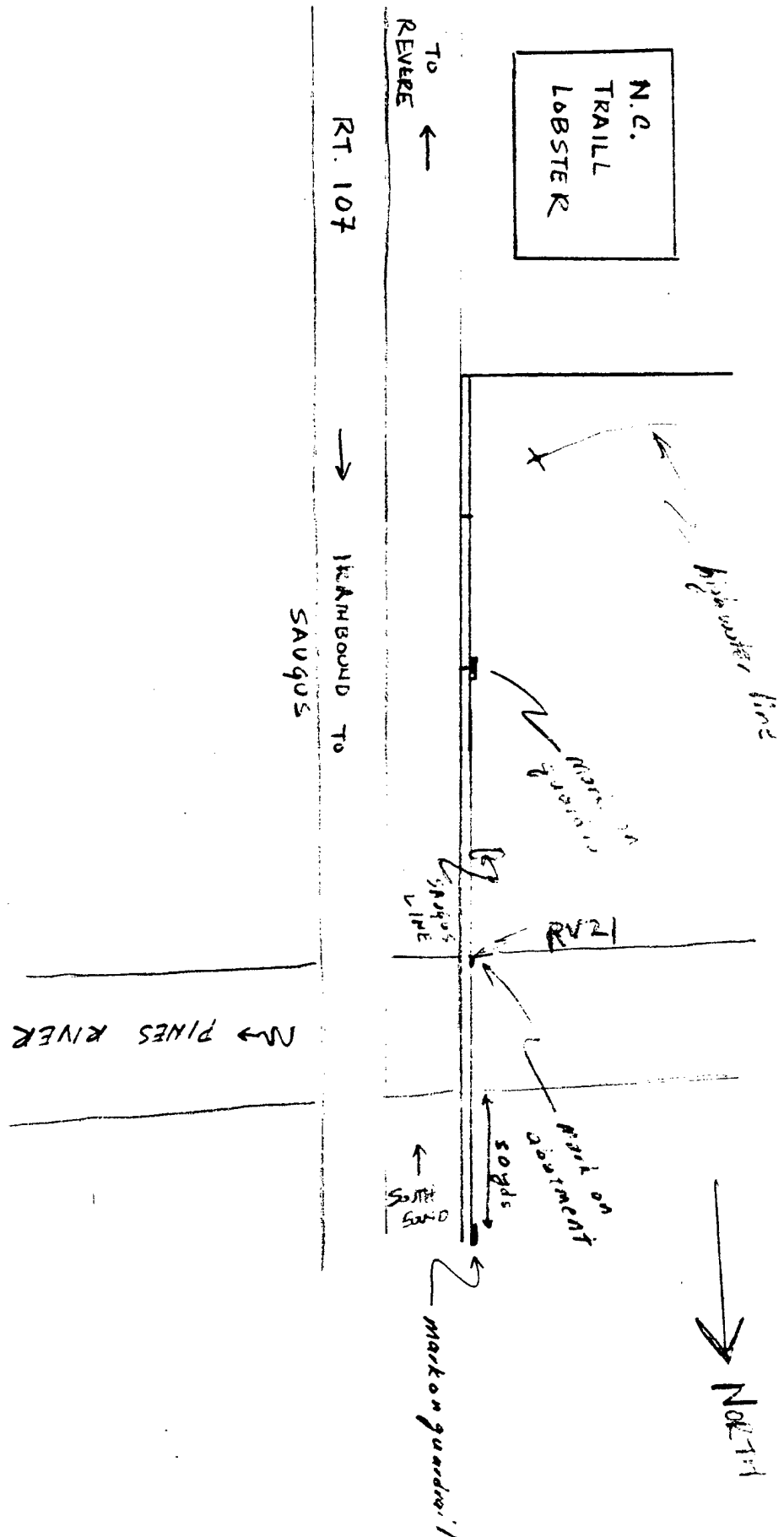
CORPS OF ENGINEERS, U.S. ARMY

PAGE _____

SUBJECT H.W. MARK DUE TO OCT 91 FLOOD

COMPUTATION RT 107 SOUTHBOUND ON REVERE/SAUGUS - 142

COMPUTED BY M. DESCHENES & V. HOM CHECKED BY _____ DATE 11/4/91



27 Sept 49

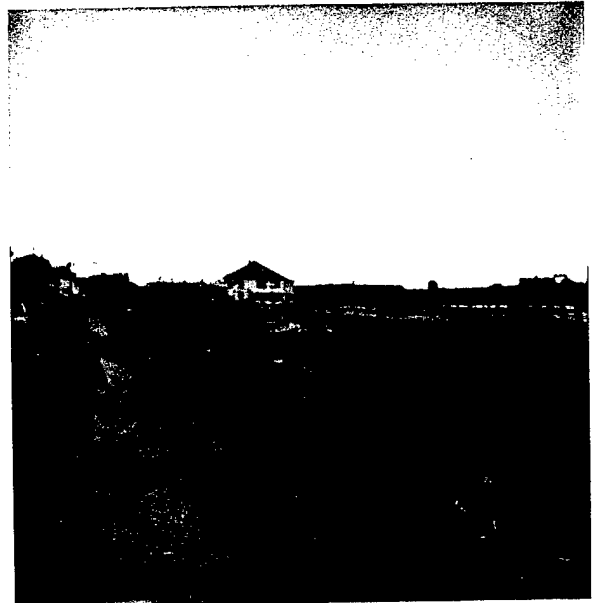
CORPS OF ENGINEERS, U. S. ARMY

PAGE _____

SUBJECT HIGHWATER MARKS DUE TO OCT 9: STORM

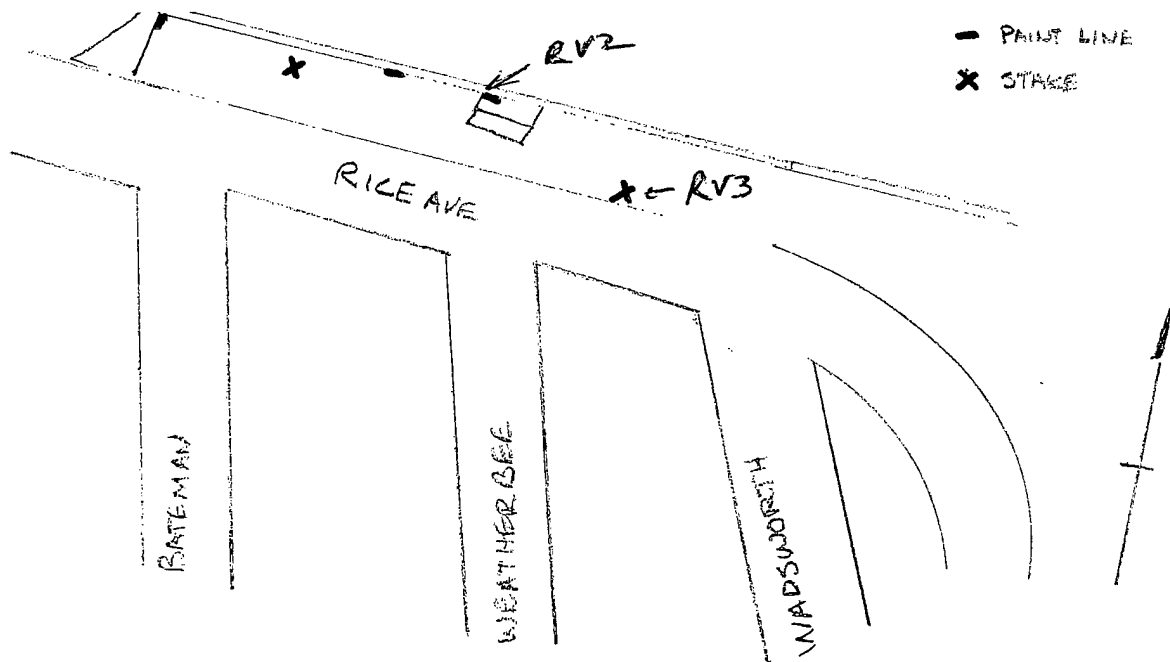
COMPUTATION REVERE (POINT OF PINES)

COMPUTED BY VICTOR ROM & A. DESCHAMPS CHECKED BY _____ DATE _____



RV2 Revere/Pt. of Pines
Rice Ave.

RV3 Revere/Pt. of Pines
Rice Ave.



27 Sept 49

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SUBJECT HIGHWATER MARKS DUE TO OCT 91 FLOODCOMPUTATION REVERE (POINT OF PINES)COMPUTED BY V. HOM. & M. DESCHENES

CHECKED BY _____

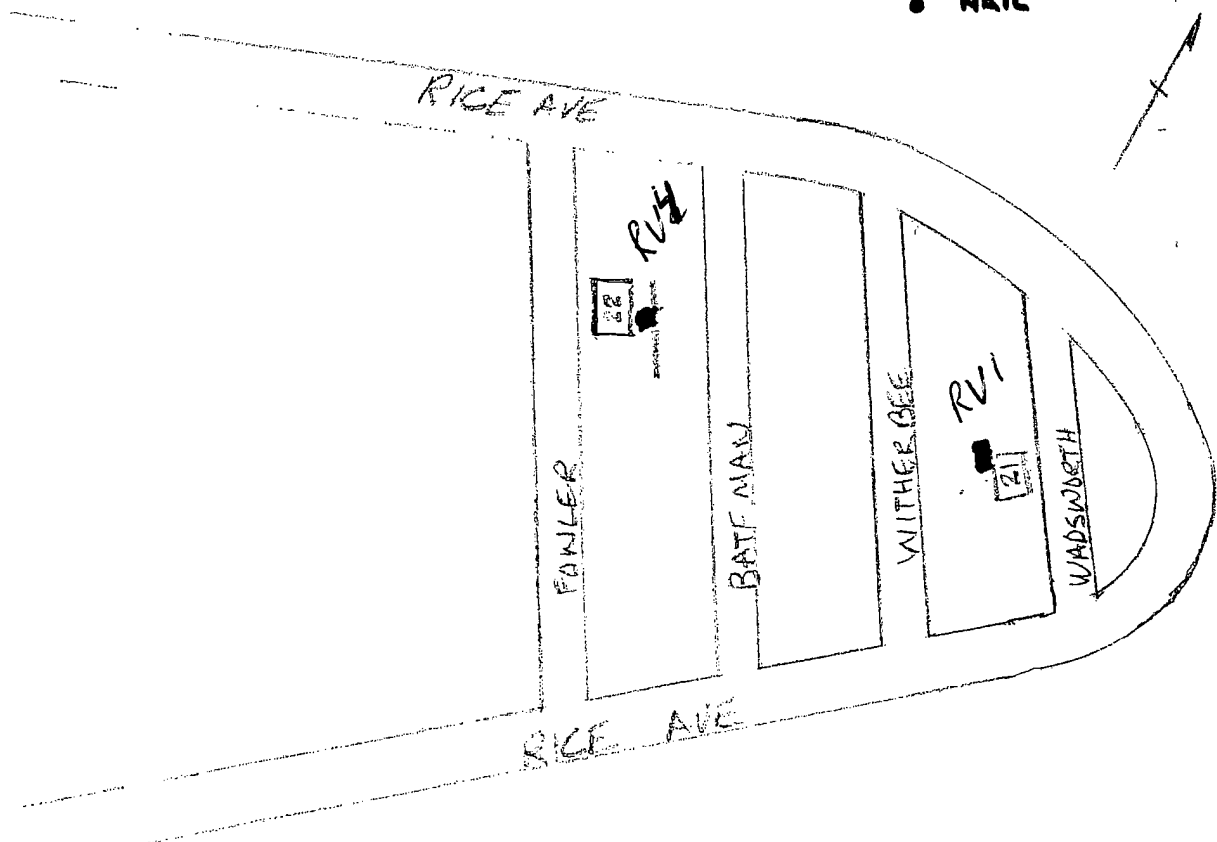
DATE _____



RV1 Revere/pt of Pines
21 Wadsworth Ave.

RV4 Revere/pt. of Pines
22 Fowler St.

- PAINT
• NAIL



27 Sept 49

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SUBJECT HIGHWATER MARKS DUE TO OCT 91 FLOODCOMPUTATION REVERE (POINT OF PINES)COMPUTED BY V. H. M. & N. D. S. HENES

CHECKED BY _____

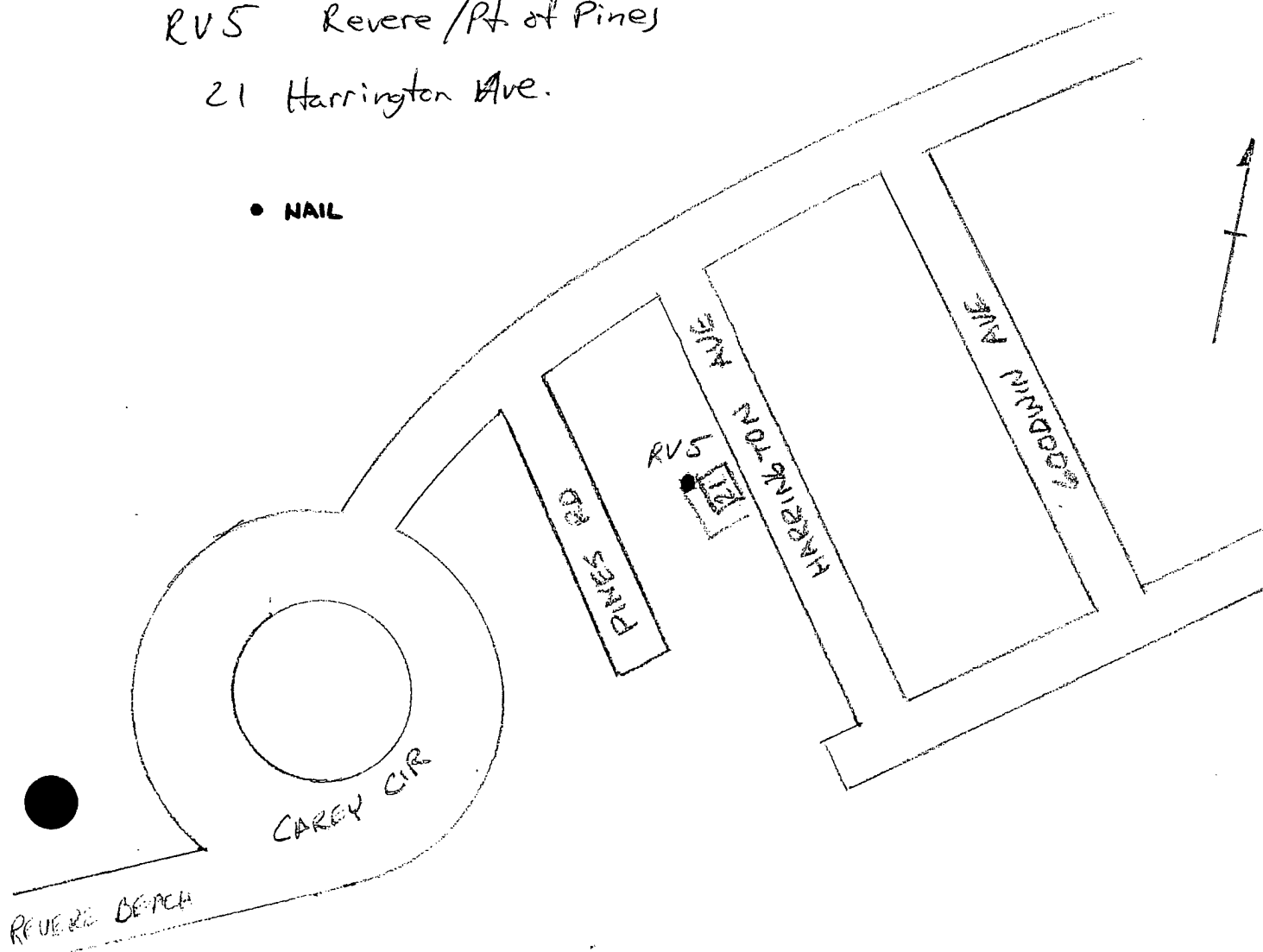
DATE _____



RV5 Revere / Pt of Pines

21 Harrington Ave.

• NAIL



27 Sept 49

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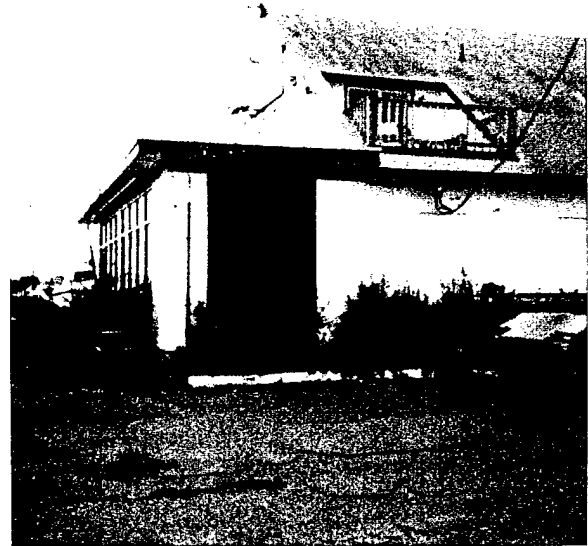
SUBJECT HIGH WATER SURVEY OF OCT 9, FLOOD

COMPUTATION PIPER'S RIVER REVERE

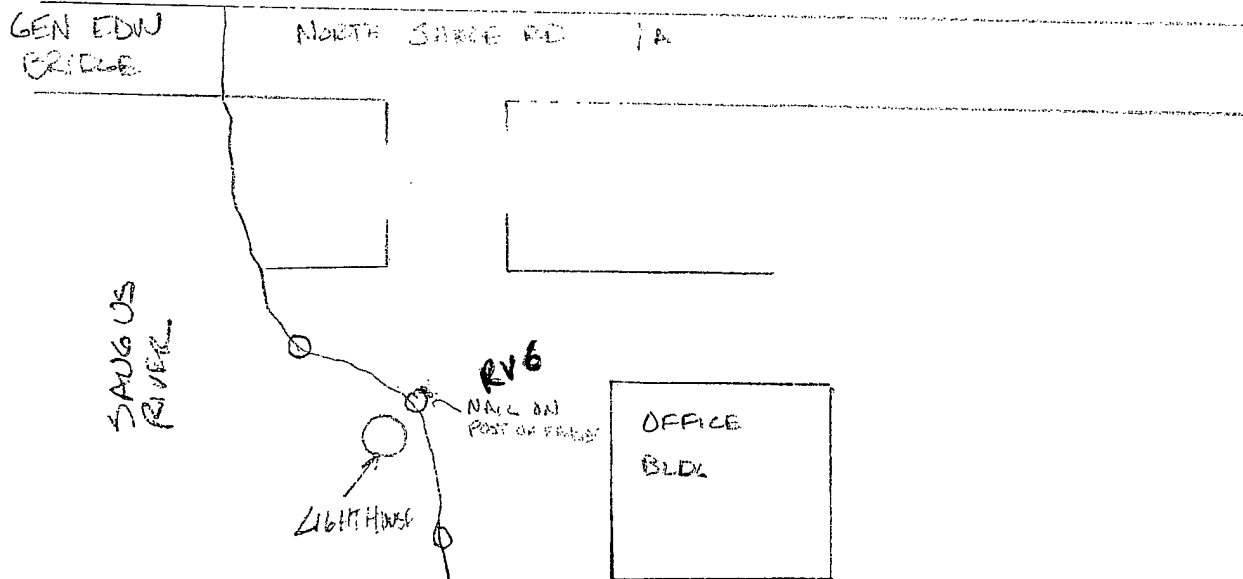
COMPUTED BY M. DESCHENES & V. HOM CHECKED BY _____ DATE _____



RV6 Revere
Off southbound 1A



RV6 Revere
Nr. General Edwards Bridge



27 Sept 49

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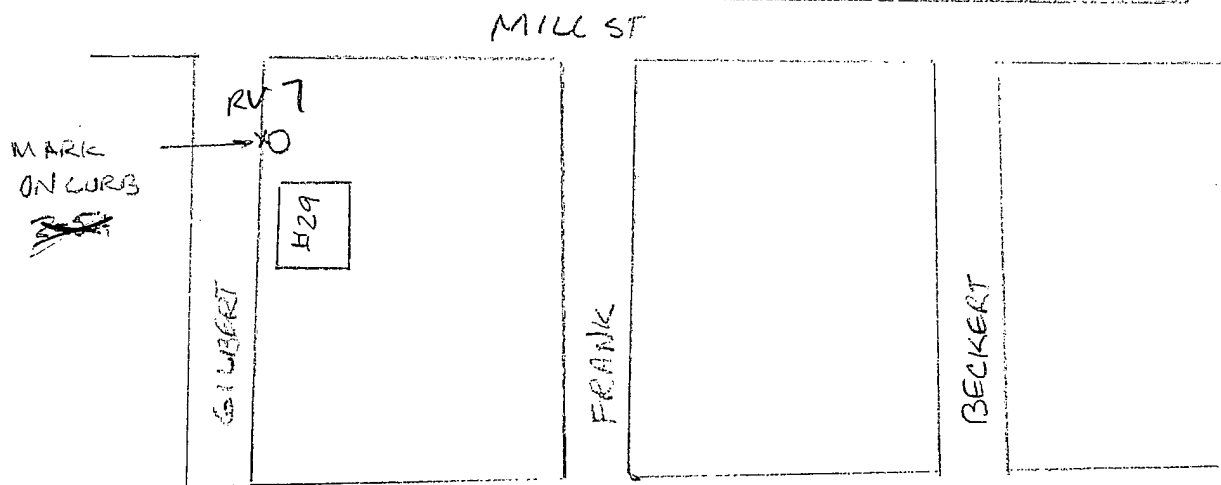
SUBJECT H.W MARK DUE TO OCT 91 FLOODCOMPUTATION PINES RIVER REVERECOMPUTED BY M. DESCHENES & J. HON CHECKED BY _____ DATE _____

RV7 Revere, Ma.
28 Gilbert Ave.



RV8 Revere, Ma.
Across from 157 Mill St.

~~35A~~ RV8
1
X STAKE



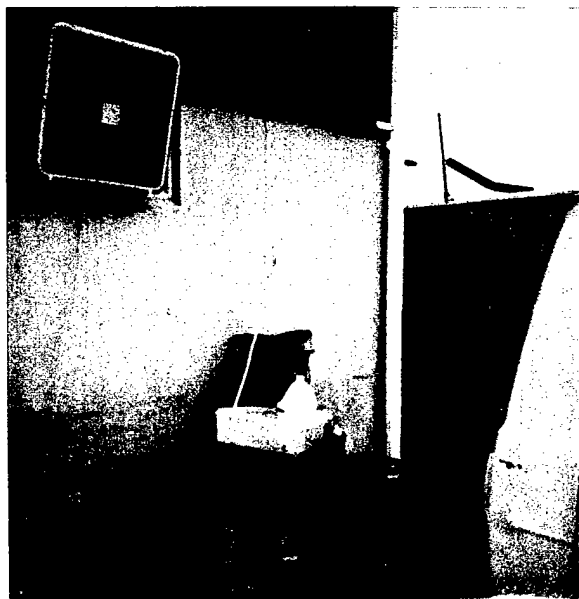
27 Sept 49

SUBJECT HIGHWATER MARK DUE TO OCT 91 STORMCOMPUTATION REVERE (ROUGHAN'S PT.)COMPUTED BY VICTOR HORN & MARK DISCANTO CHECKED BY _____ DATE 11/5/91

RV9 Revere/Roughan's Pt.
176 Broad Sound Ave.



RV10 Revere/Roughan's Pt.
125 Broad Sound Ave.



RV11 Revere/Roughan's Pt.
86 Broad Sound Ave.

NED FORM 223
27 Sept 49

NEW ENGLAND DIVISION
CORPS OF ENGINEERS, U.S. ARMY

PAGE _____

SUBJECT HIGH WATER MARK SAGE 264 21 5000 FLOOD

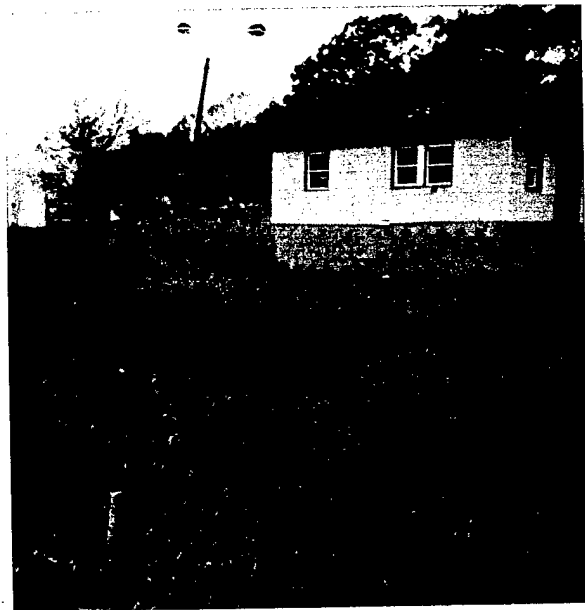
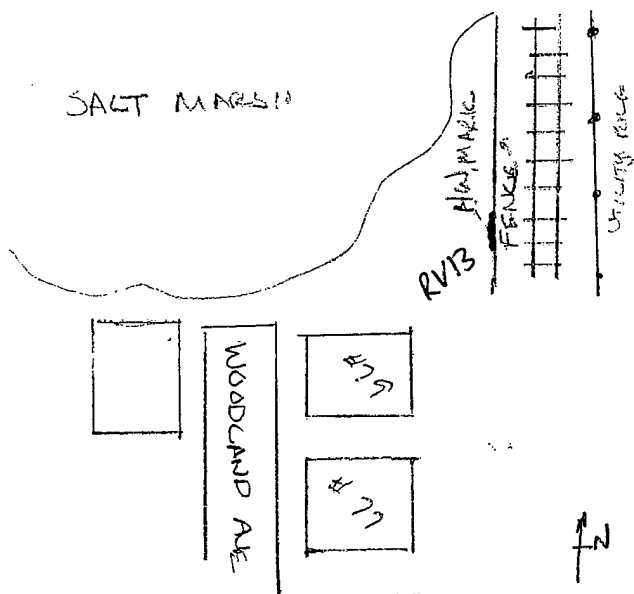
COMPUTATION REVERE

COMPUTED BY _____ CHECKED BY _____ DATE _____

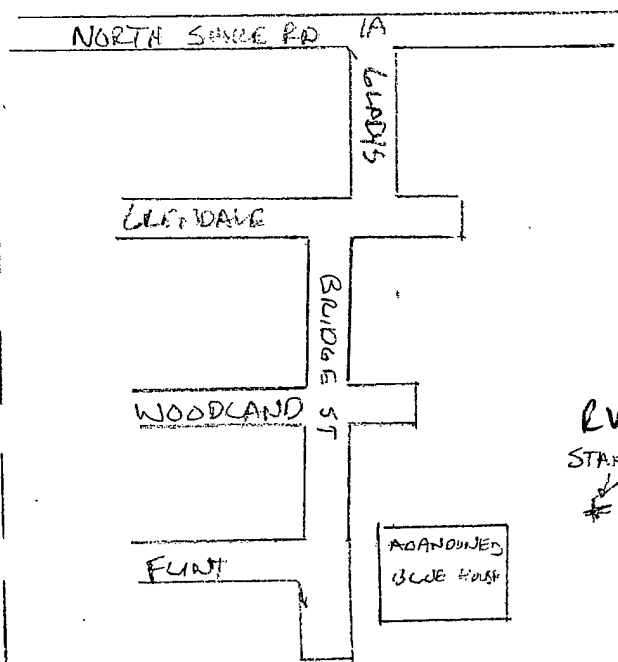


RV13 Revere, Ma.

MBTA Fence



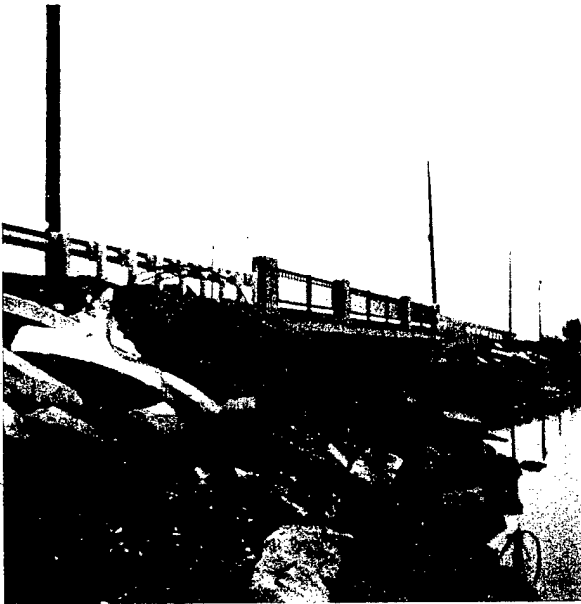
RV12 Revere, Ma.
Intersection Flint & Bridge Sts.



27 Sept 49

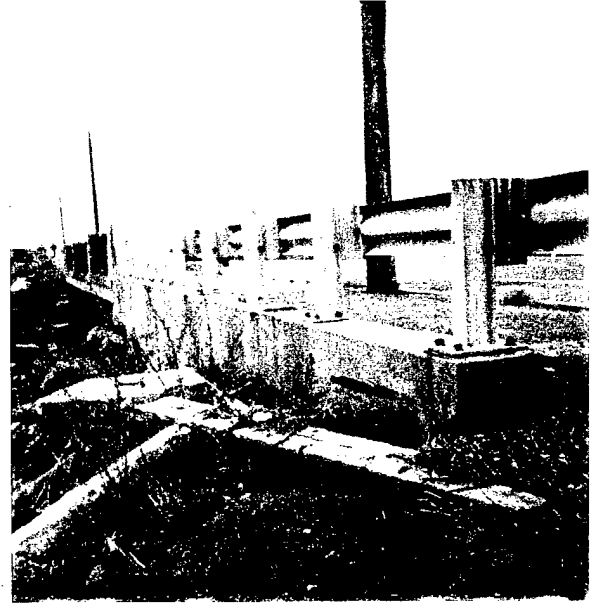
CORPS OF ENGINEERS, U.S. ARMY

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SUBJECT H.W. MARK DUE TO OCT 91 FLOODCOMPUTATION DIAMOND CREEK REVERE, MA (RT. 107 NORTH ABUTMENT)COMPUTED BY M. DESCHENES & V. HOW CHECKED BY _____ DATE _____

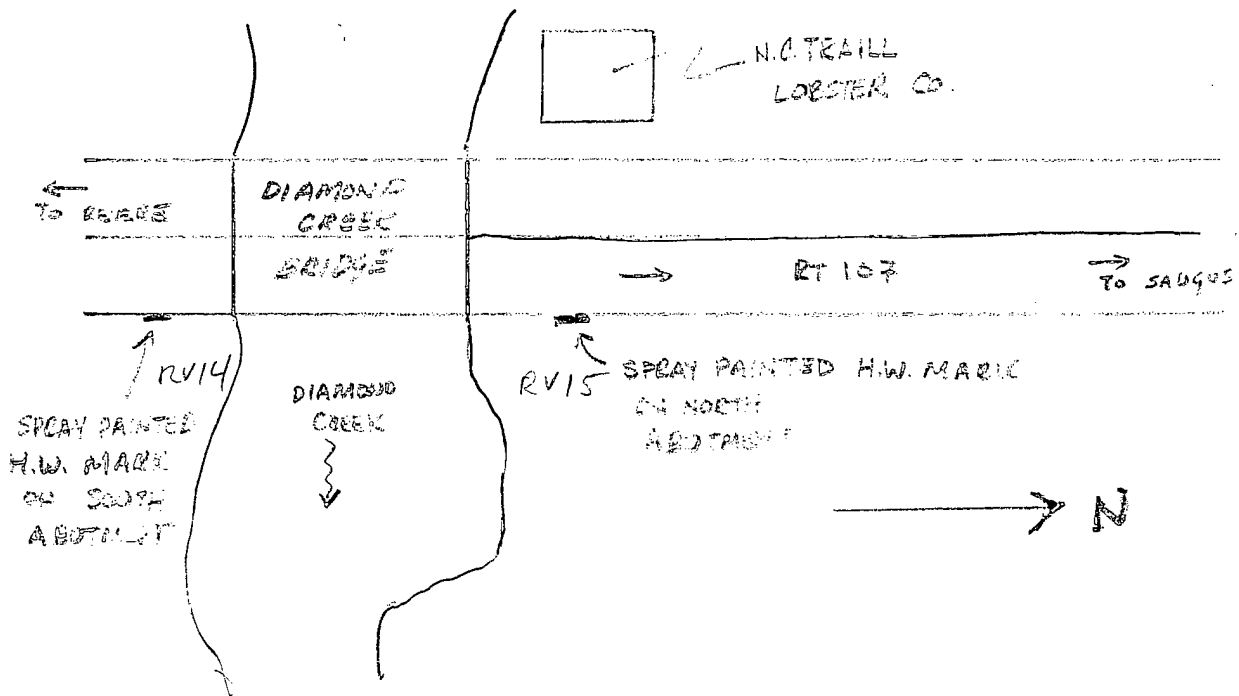
RV14

Revere, Ma.

Diamond Creek
(facing east)

RV15

Revere, Ma.

Diamond Creek, North abutment
of Rte. 107

27 Sept 49

CORPS OF ENGINEERS, U.S. ARMY

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SUBJECT H.W MARK DUE TO OCT 91 FLOOD

COMPUTATION _____

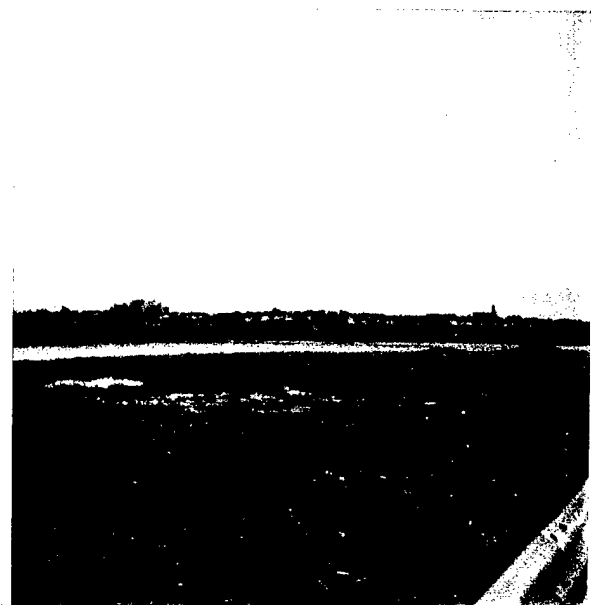
COMPUTED BY M. DESCHENES & V. HON

CHECKED BY _____

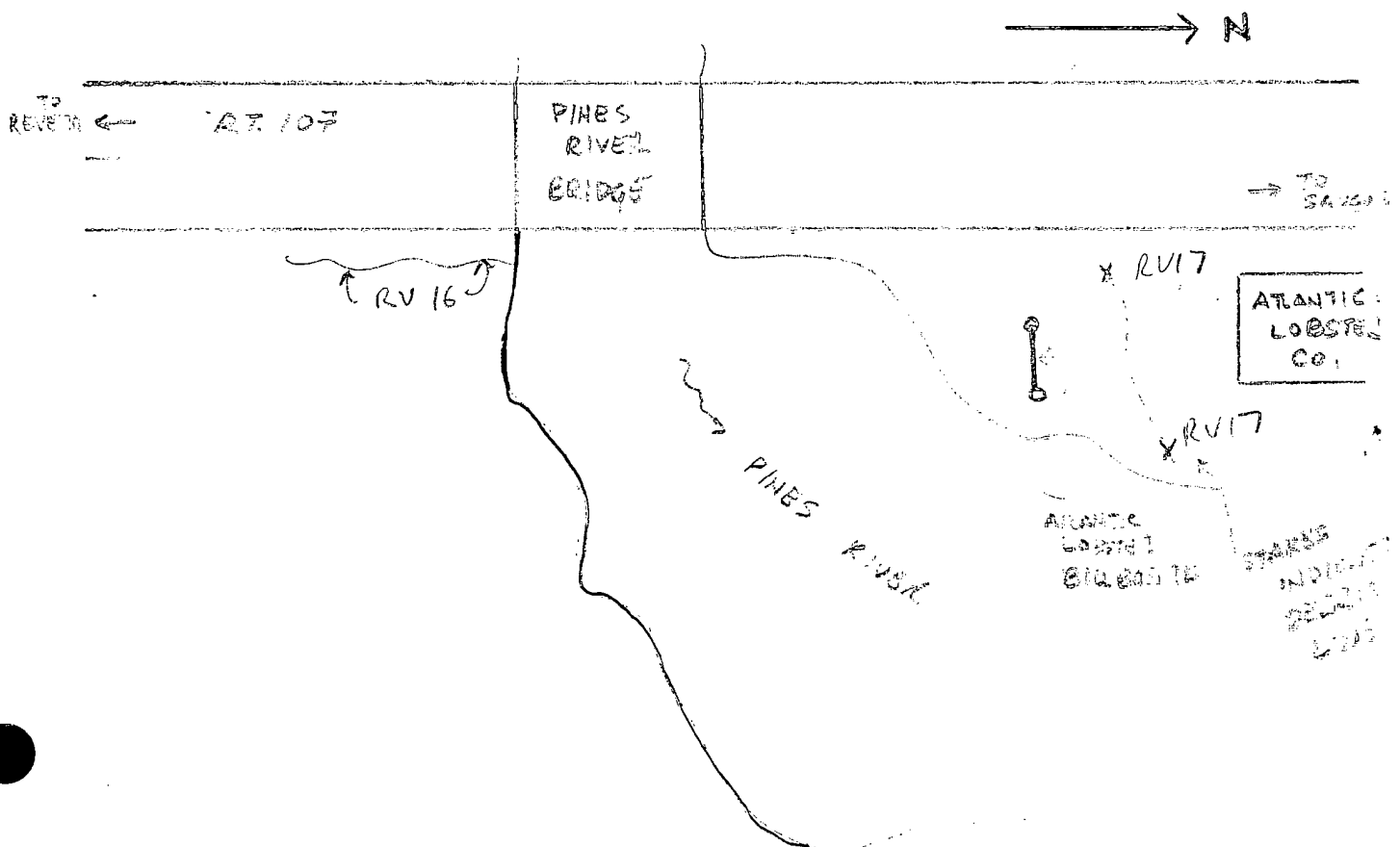
DATE _____



RV16 Revere, Ma.
Pines River / Rte. 107



RV17 Revere, Ma.
Pines River / Rte. 107



27 Sept 49

CORPS OF ENGINEERS, U.S. ARMY

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SUBJECT H.W MARK DUE TO OCT 91 FLOOD

COMPUTATION _____

COMPUTED BY M. DESCHENES & V. HOM

CHECKED BY _____

DATE _____



Revere, Ma.
South of M.C. Traill
Lobster Company



RV18 Revere, Ma.
S. abutment over Diamond Ck.



RV19 Revere, Ma.
South of M.C. Traill



RV20 Revere, Ma.
North of M.C. Traill

27 Sept 49

CORPS OF ENGINEERS, U. S. ARMY

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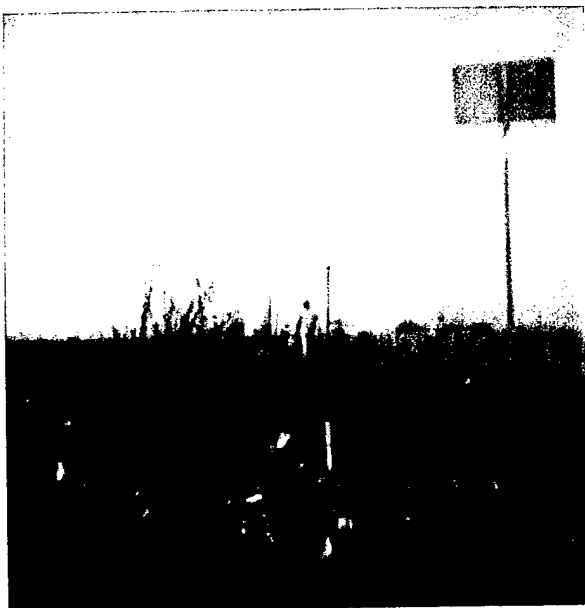
SUBJECT H.W MARK DUE TO OCT 91 FLOOD

COMPUTATION _____

COMPUTED BY M. DESCHENES & V. HON

CHECKED BY _____

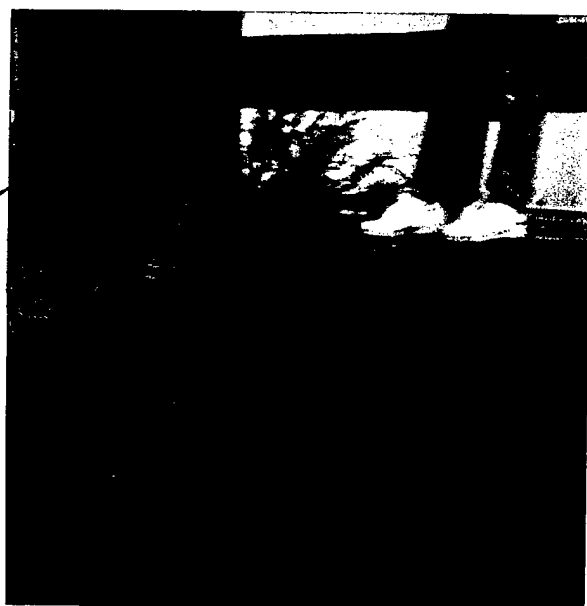
DATE _____



Stake
South of Pines River
bridge abutment

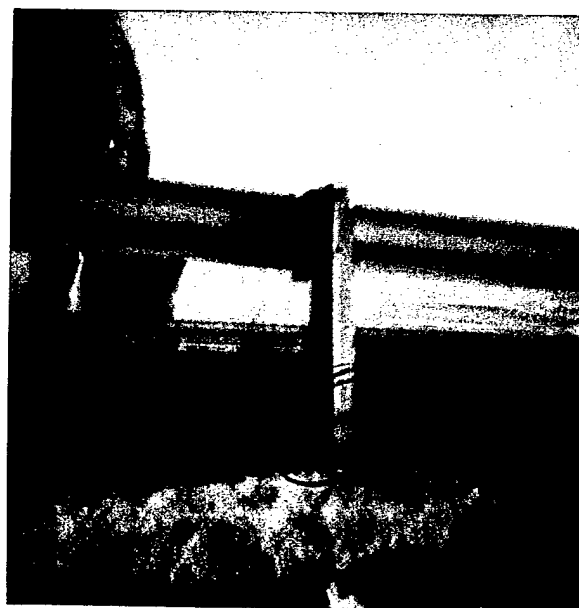


Hwmark btwn. McTails
and Pines River

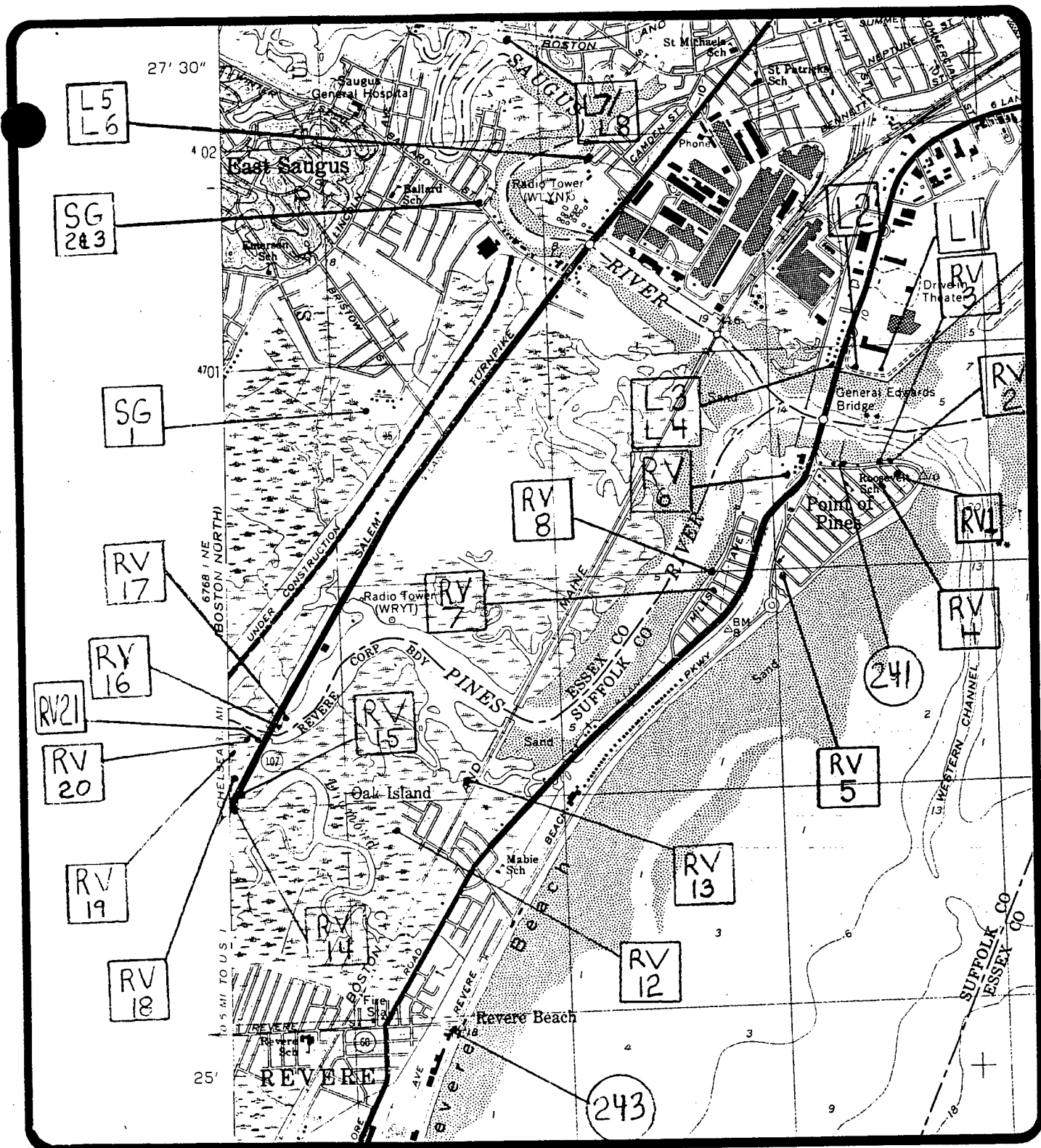


RV21

S. abutment @ Pines River Bridge



150' North of Pines River
bridge abutment.



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Lynn, MA.

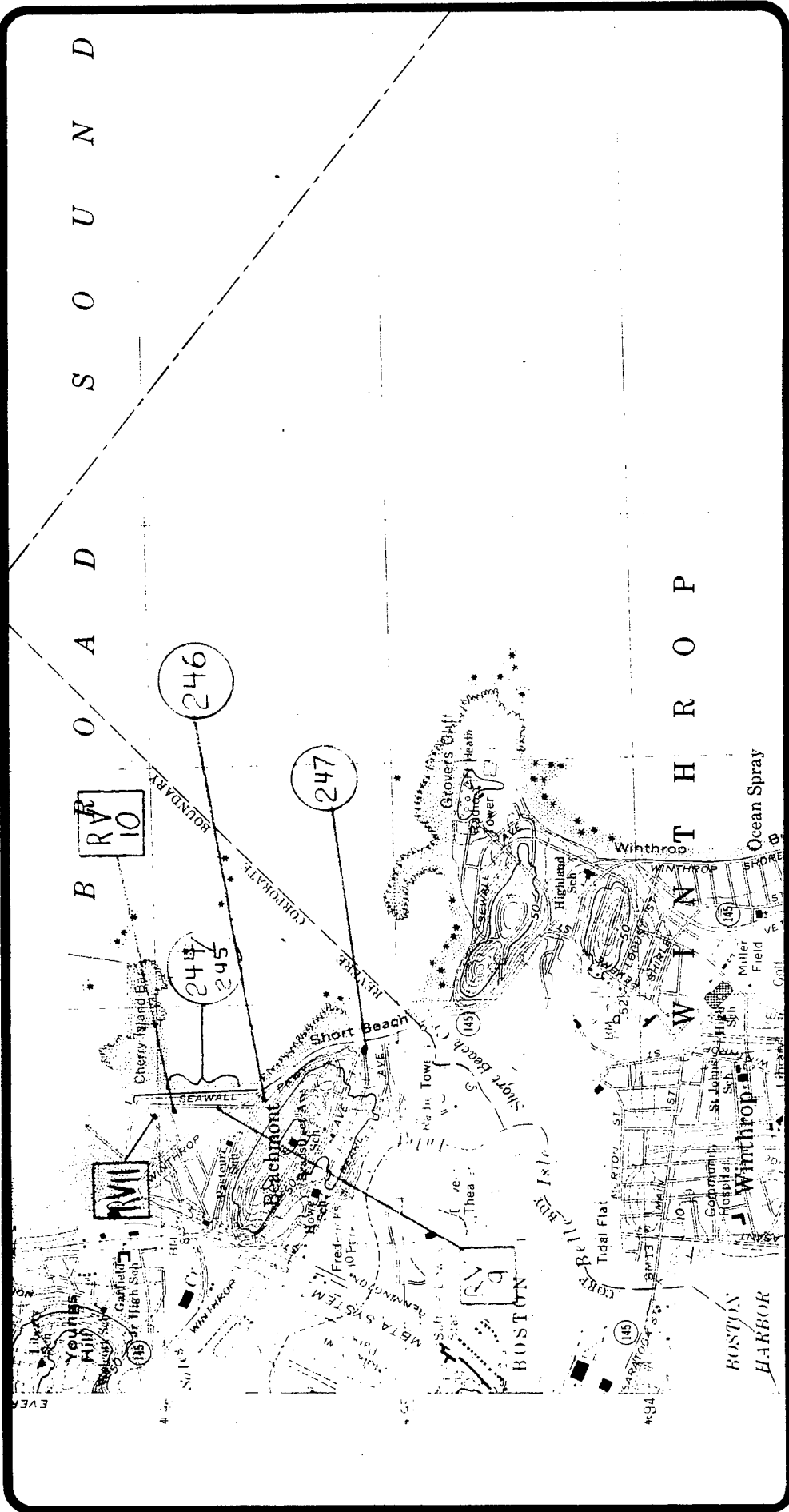
□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers



US Army Corps
of Engineers
New England Division

High Water Mark Location Map
Halloween Storm, October, 1991 □ - 1991 ○ - 1978
USGS 7.5 Minute Quadrangle - Lynn, MA.

APPENDIX

WINTHROP, MASSACHUSETTS

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		W1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Winthrop	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Nail on a telephone pole with orange ribbon,
84 Taft Street opposite Townsend Avenue. Pointed out by a fireman speculating
on the approximate height. No scum lines noticable. Nail approximately 3 feet
above street level.

4 November 1991	Mark Deschenes and Karen Schofield
(Date obtained)	(Obtained by)

Bob Donohue, 26 Townsend Street
 (Name and address of person pointing out high watermark)

Medium	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)

(Elevation of high watermark above water surface)	(Date & Hour) (Class. of watermark)

(Elevation determined by)	(Date) (Order of levels)

(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		W2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Winthrop	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: 49 Townsend Street. Car in driveway with debris on windshield indicating height of debris during high water. Debris also evident on top of bushes. Highwater mark at top of stone masonry fence (east front corner).

4 November 1991	Victor Hom and Mark Deschenes
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)	
Noticed by Victor Howe	
(If not pointed out, how obtained?)	(Date and hour of high watermark)
Medium	

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

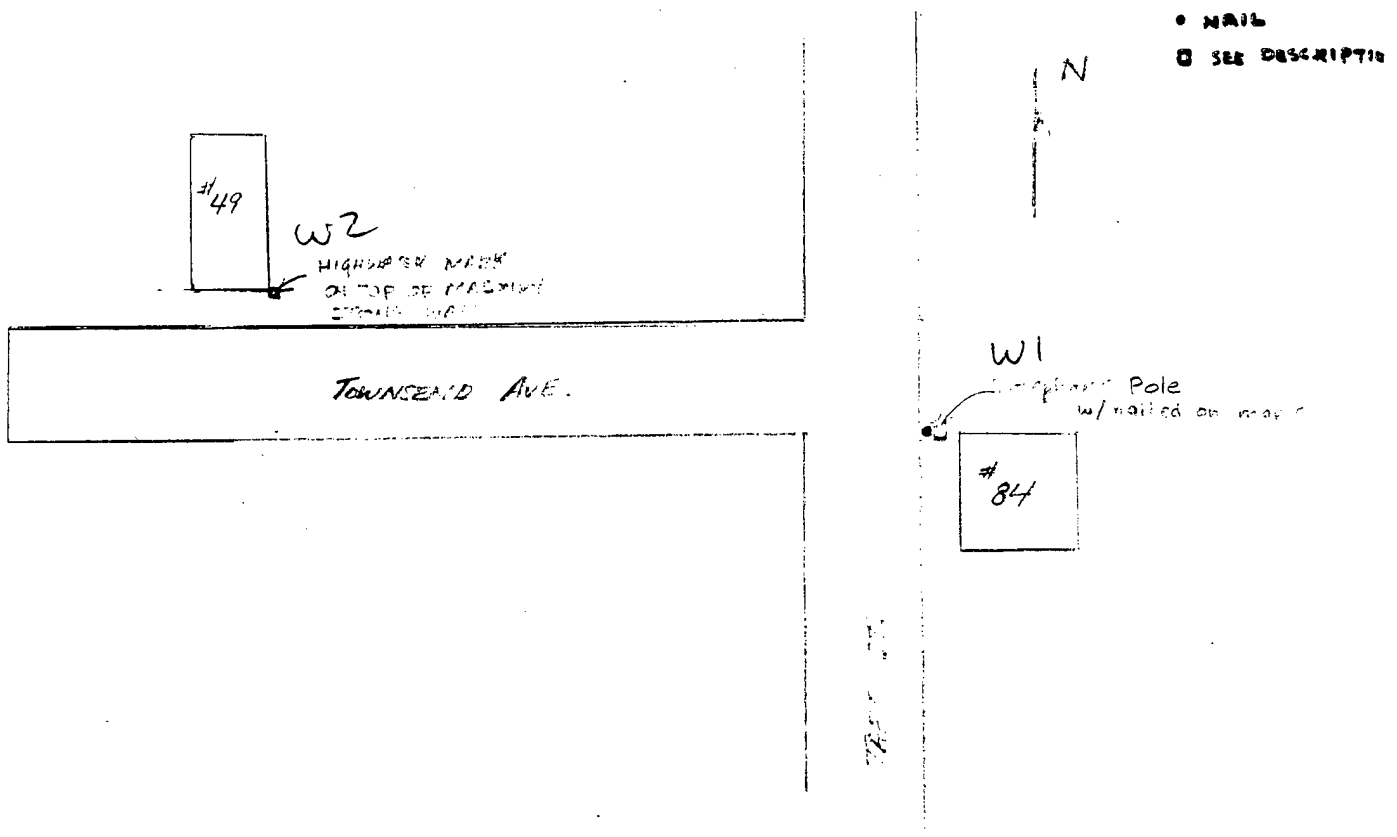
HIGHWATER MARKS DUE TO OCT. 91 STORM
 WINTHROP
 VICTOR HOPKINS & ASSOCIATES

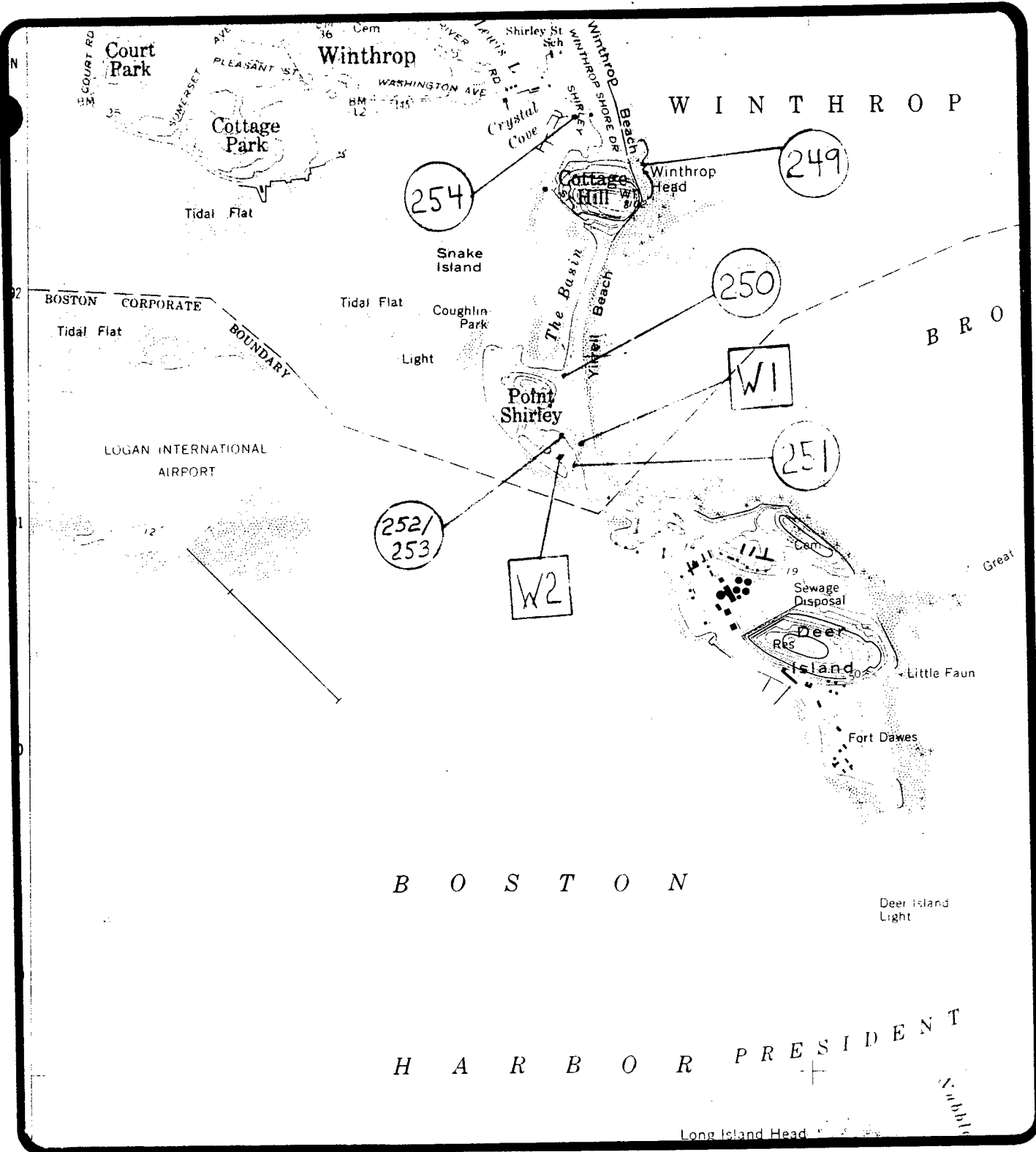


W1 Winthrop, Ma.
 84 Taft St.



W2 Winthrop, Ma.
 49 Townsend St.





High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Hull, MA.

□ - 1991 ○ - 1978

New England Division



US Army Corps
of Engineers

APPENDIX

HULL TO SANDWICH, MASSACHUSETTS

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		H2	
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)	
	Hull	MA	
(Tributary of)	(City or Town)	(State)	
Description of high watermark: JPC 166 / 1 utility pole, Pt. Allerton Avenue.			
11/2/91		Robert Russo and Duban Montoya	
(Date obtained)		(Obtained by)	
(Name and address of person pointing out high watermark)			
Visual			
(If not pointed out, how obtained?)		(Date and hour of high watermark)	
(Elev. of high watermark)		(Datum)	(Benchmark referred to) (Datum)
(Elevation of high watermark above water surface)		(Date & Hour)	(Class. of watermark)
(Elevation determined by)		(Date)	(Order of levels)
(Nearest dam upstream or downstream)		(Latitude and longitude of watermark)	
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)			

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Atlantic Ocean</u> (Name of River, Bay or Harbor)	<u></u> (Miles from Mouth)	<u>H3</u> (Watermark No.)
<u></u> (Tributary of)	<u>Hull</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: 2nd shingle up from concrete porch, #337

Beach Avenue at U Street

11/2/91

(Date obtained)

Robert Russo and Duban Montoya

(Obtained by)

(Name and address of person pointing out high watermark)

Visual

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Atlantic Ocean</u>		H4
<u>(Name of River, Bay or Harbor)</u>	<u>(Miles from Mouth)</u>	<u>(Watermark No.)</u>
<u>(Tributary of)</u>	<u>Hull</u>	<u>MA</u>
	<u>(City or Town)</u>	<u>(State)</u>

Description of high watermark: Utility pole #4 - Warren Street

11/2/91

(Date obtained)

Robert Russo and Duban Montoya

(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Description of high watermark: Utility pole #⁹⁰/I,5th Street

(Name and address of person pointing out high watermark)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Mass. Bay		C2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Cohasset	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Utility pole 7-90/SPP/38A/3-40 corner of
Nicholas Road and Atlantic Avenue. Near Sandy Beach.

11/2/91	Robert Russo and Duban Montoya
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Visual	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Cohasset Harbor		C3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Cohasset	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Utility pole #4

Fire alarm #232

Stockbridge Street/Margin Street

Near the Yacht Club.

11/3/91	Robert Russo and Duban Montoya
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Visual	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		S2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Scituate	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Surf Side Road utility pole #19

North Scituate Beach

11/2/91

(Date obtained)

Robert Russo and Duban Montoya

(Obtained by)

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Mass. Bay</u> (Name of River, Bay or Harbor)	<u>Scituate</u> (Miles from Mouth)	<u>S3</u> (Watermark No.)
<u>Scituate</u> (Tributary of)	<u>Scituate</u> (City or Town)	<u>MA</u> (State)
Description of high watermark: <u>Egypt Beach Road utility pole #81/15 near</u>		
<u>Egypt Beach.</u>		
<u>11/2/91</u> (Date obtained)	<u>Robert Russo and Duban Montoya</u> (Obtained by)	
<u>Visual</u> (If not pointed out, how obtained?)		
<u>Visual</u> (Date and hour of high watermark)		
<u>Visual</u> (Elev. of high watermark)	<u>Visual</u> (Datum)	<u>Visual</u> (Benchmark referred to)
<u>Visual</u> (Elevation of high watermark above water surface)	<u>Visual</u> (Date & Hour)	<u>Visual</u> (Class. of watermark)
<u>Visual</u> (Elevation determined by)	<u>Visual</u> (Date)	<u>Visual</u> (Order of levels)
<u>Visual</u> (Nearest dam upstream or downstream)	<u>Visual</u> (Latitude and longitude of watermark)	
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)		

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Scituate Harbor		S4
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Scituate	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Utility pole #A3 next to Scituate Harbormaster Bldg.

11/2/91	Robert Russo and Duban Montoya
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Visual	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		S5
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Scituate	MA
(Tributary of)	(City or Town)	(State)
Description of high watermark: Utility pole #18		
Light House Park		
(Cedar Point) near light house		
11/2/91	Robert Russo and Duban Montoya	
(Date obtained)	(Obtained by)	
(Name and address of person pointing out high watermark)		
Visual		
(If not pointed out, how obtained?)	(Date and hour of high watermark)	
(Elev. of high watermark)	(Datum)	(Benchmark referred to)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
(Elevation determined by)	(Date)	(Order of levels)
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)	
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)		

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		S6	
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)	
	Scituate	MA	
(Tributary of)	(City or Town)	(State)	
Description of high watermark:	Utility Pole #6, Town Way near Dickens Row,		
Peggotty Beach			
11/2/91	Robert Russo and Duban Montoya		
(Date obtained)	(Obtained by)		
(Name and address of person pointing out high watermark)			
Visual			
(If not pointed out, how obtained?)	(Date and hour of high watermark)		
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)			

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean

S8

(Name of River, Bay or Harbor)

(Miles from Mouth)

(Watermark No.)

Scituate

MA

(Tributary of)

(City or Town)

(State)

Description of high watermark:

Utility Pole #259/4 at 21 Oldmouth Road, Scituate

11/2/91

Robert Russo and Duban Montoya

(Date obtained)

(Obtained by)

(Name and address of person pointing out high watermark)

Visual

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean			M1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)	
	Marshfield	MA	
(Tributary of)	(City or Town)	(State)	
Description of high watermark: Utility pole 2/100/CP - near concrete tower at			
21 South Street near Brant Rock.			
11/2/91	Robert Russo and Duban Montoya		
(Date obtained)	(Obtained by)		
(Name and address of person pointing out high watermark)			
Visual			
(If not pointed out, how obtained?)	(Date and hour of high watermark)		
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)			

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		M2	
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)	
	Rexhame	MA	
(Tributary of)	(City or Town)	(State)	
Description of high watermark: Utility Pole #58/I Abbey Street			
off of Winslow Road near Beadles Rocks			
11/2/91	Robert Russo and Duban Montoya		
(Date obtained)	(Obtained by)		
(Name and address of person pointing out high watermark)			
(If not pointed out, how obtained?)	(Date and hour of high watermark)		
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)			

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic		M3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Fieldston	MA
(Tributary of)	(City or Town)	(State)
Description of high watermark: Utility pole # ²⁵⁶ /4 at the end of Hartford Road.		
Unsure of high water mark - best guess.		
3 November 1991	Robert Russo and Duban Montoya	
(Date obtained)	(Obtained by)	
(Name and address of person pointing out high watermark)		
Visual		
(If not pointed out, how obtained?)	(Date and hour of high watermark)	
(Elev. of high watermark)	(Datum)	(Benchmark referred to)
		(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
(Elevation determined by)	(Date)	(Order of levels)
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)	
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)		

DEPARTMENT OF THE ARMY
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Green Harbor Atlantic Ocean

M4

(Name of River, Bay or Harbor)

(Miles from Mouth)

(Watermark No.)

Marshfield

MA

(Tributary of)

(City or Town)

(State)

Description of high watermark: Half way between utility poles #²⁵/15 and #²⁵/16
at the end of Beach Street

3 November 1991

Robert Russo and Duban Montoya

(Date obtained)

(Obtained by)

(Name and address of person pointing out high watermark)

Visual

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Atlantic Ocean</u> (Name of River, Bay or Harbor)	<u></u> (Miles from Mouth)	<u>D1</u> (Watermark No.)
<u></u> (Tributary of)	<u>Duxbury</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: Utility pole #18 next to 142 Gurnet Road

3 November 1991

(Date obtained)

Robert Russo and Duban Montoya

(Obtained by)

(Name and address of person pointing out high watermark)

Visual

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		D2	
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)	
	Duxbury	MA	
(Tributary of)	(City or Town)	(State)	
Description of high watermark: Utility Pole #41 across from conscession stand (Bldg) Gurnet Road (Duxbury Beach)			
3 November 1991		Robert Russo and Duban Montoya	
(Date obtained)		(Obtained by)	
(Name and address of person pointing out high watermark)			
Visual		(Date and hour of high watermark)	
(If not pointed out, how obtained?)			
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)		(Date & Hour)	(Class. of watermark)
(Elevation determined by)		(Date)	(Order of levels)
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)			

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Duxbury Bay		D3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Duxbury	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Bolt on support beam of Powder Point Bridge at
Powder Point--south side

3 November 1991	Robert Russo and Duban Montoya
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Visual	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)		

(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)

(Elevation determined by)	(Date)	(Order of levels)

(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

11/4/91

Robert Russo and Duban Montoya

(Date obtained)

(Obtained by)

(Name and address of person pointing out high watermark)

Visual

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)
---------------------------	---------

(Benchmark referred to)	(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

FORM 203
1 APR 78

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Description of high watermark: Utility pole #9 next to house at the end of Goose Pond Lane.

(Obtained by)

(Date and hour of high watermark)

(Latitude and longitude of watermark)

FORM 203
1 APR 78

new England Division, Corps of Engineers
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Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Kingston Bay/Rocky Nook Park
(Name of River, Bay or Harbor)

(Miles from Mouth)

K1
(Watermark No.)

(Tributary of)

Kingston
(City or Town)

MA
(State)

Description of high watermark: Utility pole #6 at the intersection of West Ave.
and Rocky Nook Lane.

4 November 1991

(Date obtained)

Robert Russo and Duban Montoya
(Obtained by)

(Name and address of person pointing out high watermark)

Visual

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour) (Class. of watermark)

(Elevation determined by)

(Date) (Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Mass Bay		P1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Plymouth	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: House owned by Brown Wade and Burrows. First house on Gurnet Point (about 3/4 mile from Duxbury, Plymouth Town Line). The most northerly house on Gurnet Point. H.W.M. 2 shingles up.

4 November 1991	Robert Russo and Duban Montoya
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Visual	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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_____ (Elevation determined by) _____ (Date) _____ (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

High Cliff, Plymouth Harbor (Name of River, Bay or Harbor)	(Miles from Mouth)	P2 (Watermark No.)
(Tributary of)	High Cliff (City or Town)	MA (State)
Description of high watermark: Utility pole #536/15 at end of Hedge Road		
4 November 1991 (Date obtained)	Robert Russo and Duban Montoya (Obtained by)	
(Name and address of person pointing out high watermark)		
Visual (If not pointed out, how obtained?)	(Date and hour of high watermark)	
(Elev. of high watermark)	(Datum)	(Benchmark referred to) (Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
(Elevation determined by)	(Date)	(Order of levels)
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)	
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)		

New England Division, Corps of Engineers
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Plymouth Harbor		P3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Plymouth	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: "Pilgrim Memorial State Park" sign next to
"Plymouth Rock ". 4 inches off of ground.

4 November 1991	Robert Russo and Duban Montoya
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Visual	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Plymouth Bay (Warren Cove)		P4
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Plymouth	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Utility pole #1 in front of Bert's Dining House

<u>4 November 1991</u>	<u>Robert Russo and Duban Montoya</u>
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Visual

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

New England Division, Corps of Engineers
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Cape Cod Bay-near Rocky Point		P5
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Plymouth	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Nature trail sign Plymouth Pilgrim Powder Plant.

(note: no red marker left) 2 inches off ground

4 November 1991
(Date obtained)

Robert Russo and Duban Montoya
(Obtained by)

(Name and address of person pointing out high watermark)

Visual
(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

New England Division, Corps of Engineers
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Cape Cod Bay-White Horse Beach P6
(Name of River, Bay or Harbor) (Miles from Mouth) (Watermark No.)

Plymouth MA
(Tributary of) (City or Town) (State)

Description of high watermark: Utility pole #19 on 36 Taylor Ave. next to
Barlett Pond in/outlet

4 November 1991 Robert Russo and Duban Montoya
(Date obtained) (Obtained by)

(Name and address of person pointing out high watermark)

DPW Worker Description
(If not pointed out, how obtained?) (Date and hour of high watermark)

(Elev. of high watermark) (Datum) (Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface) (Date & Hour) (Class. of watermark)

(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Cape Cod Bay		P7
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Plymouth	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Entrance to Association Beach access, end
of Sea View Drive and Senator Way

4 November 1991

Robert Russo and Duban Montoya

(Date obtained)

(Obtained by)

Resident observation

(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Cape Cod Bay		P8
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Plymouth	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Utility pole #X86325
V31778 in front of 19 Bayberry
Road near Bayside Beach.

4 November 1991	Robert Russo and Duban Montoya
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Visual	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Ellisville Harbor (Salt Pond)		P9
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
Cape Cod Bay	Plymouth	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Wood stake at end of Lookout Point Rd
(near private beach Lookout Pt. Improvement Assoc next to dirt road, 1/4 mile
south of Ellisville Harbor).

4 November 1991	Robert Russo and Duban Montoya
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Visual

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

New England Division, Corps of Engineers
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Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Cape Cod Bay		B1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Bourne	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Concrete pile next to concrete stairs going
to beach, near Shawmut and Sagamore Street intersection.

Sagamore Beach

11/4/91	Robert Russo and Duban Montoya
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Visual

(If not pointed out, how obtained?)	(Date and hour of high watermark)
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(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
---------------------------	---------	-------------------------	---------

(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
--	---------------	-----------------------

(Elevation determined by)	(Date)	(Order of levels)
---------------------------	--------	-------------------

(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
--------------------------------------	---------------------------------------

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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New England Division, Corps of Engineers
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Cape Cod Bay</u> (Name of River, Bay or Harbor)	<u></u> (Miles from Mouth)	<u>SA1</u> (Watermark No.)
<u></u> (Tributary of)	<u>Sandwich</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: North Jetty, Cape Cod Canal. Approximately
3' down from the top of the jetty. Approximate location of high water mark-
near MHW line on beach.

<u>11/4/91</u> (Date obtained)	<u>Robert Russo and Duban Montoya</u> (Obtained by)
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(Name and address of person pointing out high watermark)

<u>Visual</u> (If not pointed out, how obtained?)	<u></u> (Date and hour of high watermark)
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<u></u> (Elev. of high watermark)	<u></u> (Datum)	<u></u> (Benchmark referred to)	<u></u> (Datum)
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<u></u> (Elevation of high watermark above water surface)	<u></u> (Date & Hour)	<u></u> (Class. of watermark)
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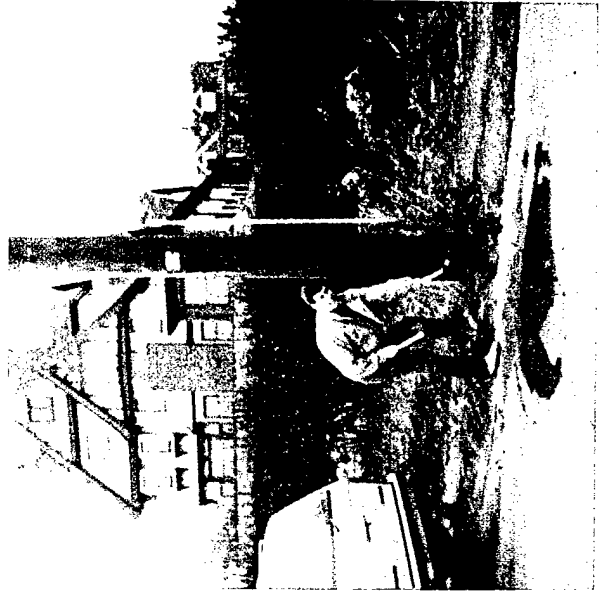
<u></u> (Elevation determined by)	<u></u> (Date)	<u></u> (Order of levels)
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<u></u> (Nearest dam upstream or downstream)	<u></u> (Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)



H1



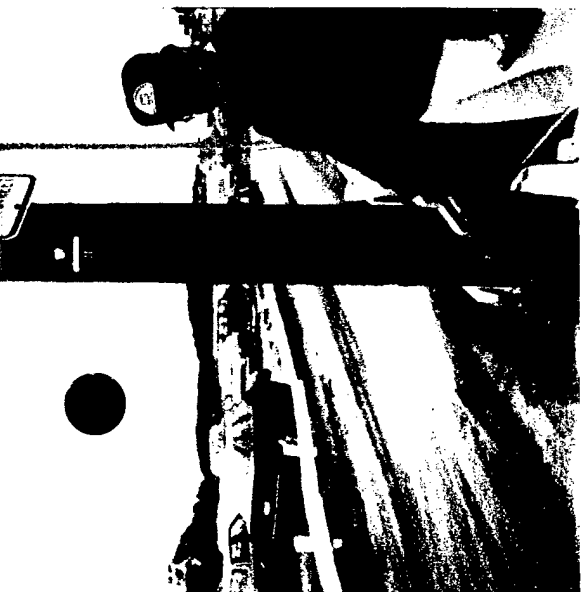
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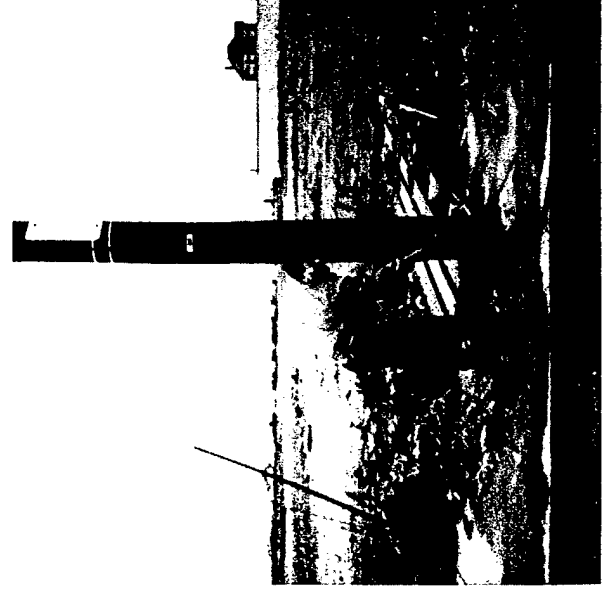
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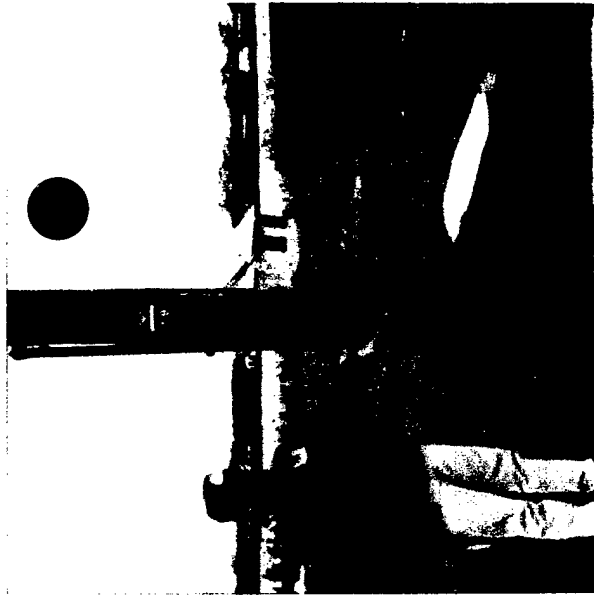
H3



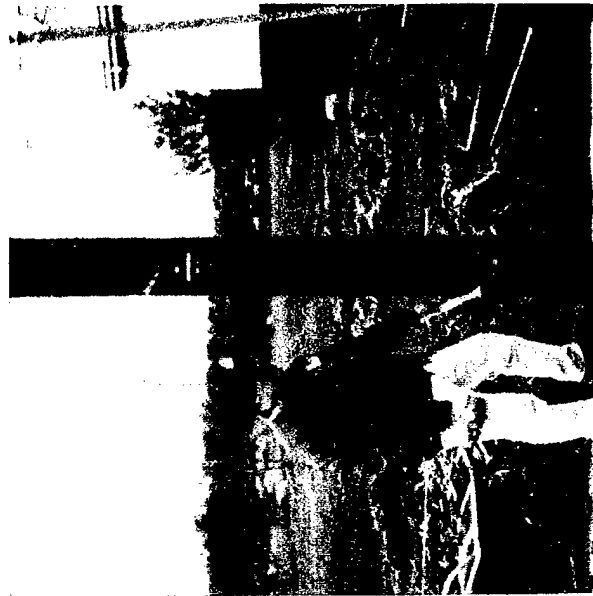
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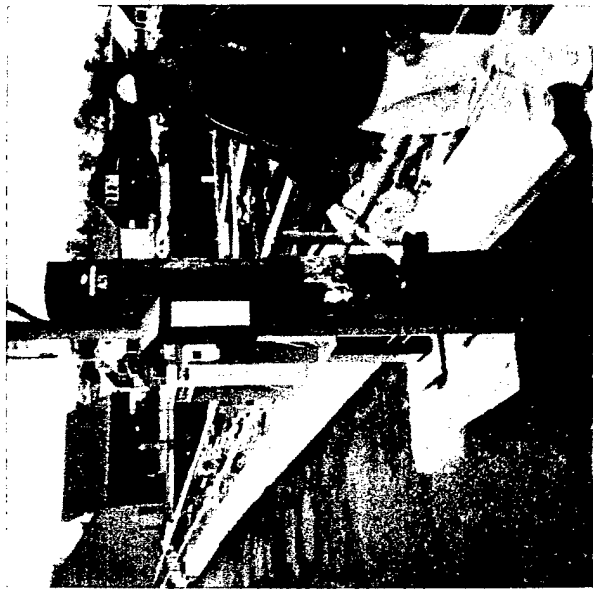
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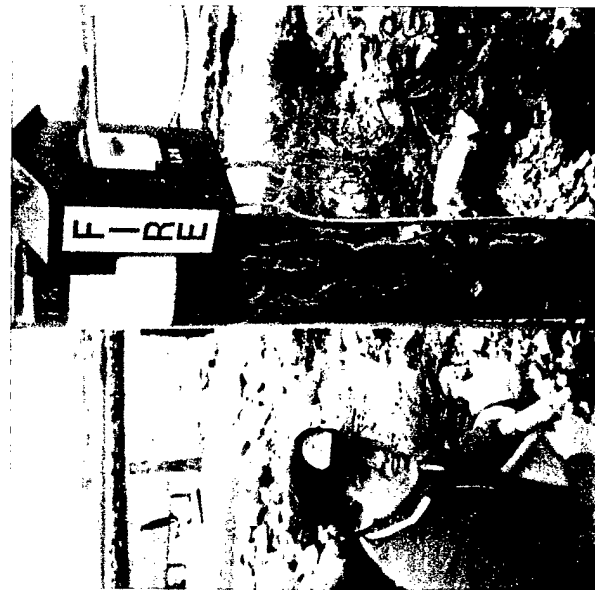
S2



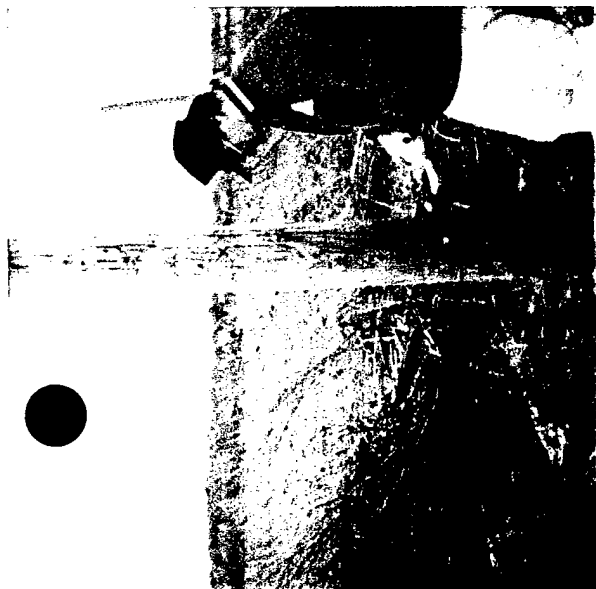
S3



S4



S5



S6



S7



D2



D3



D4



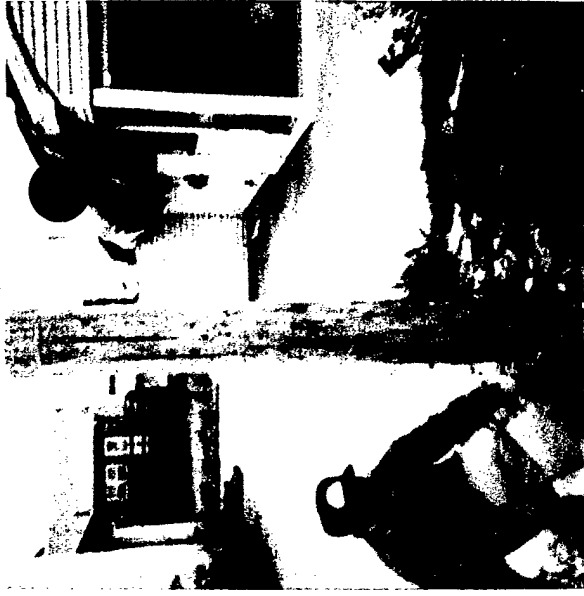
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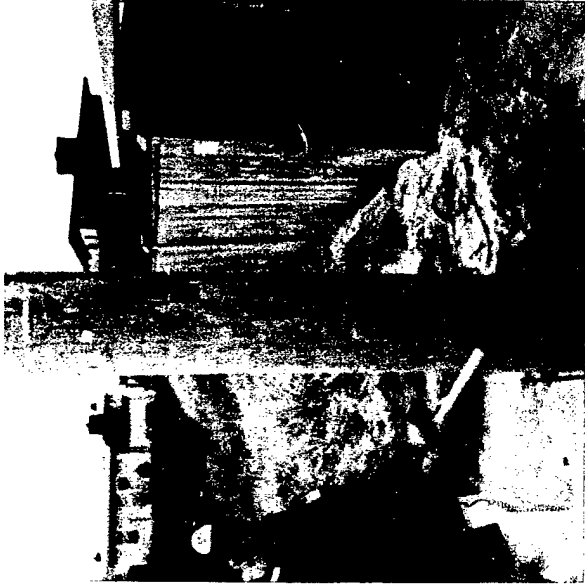
C1



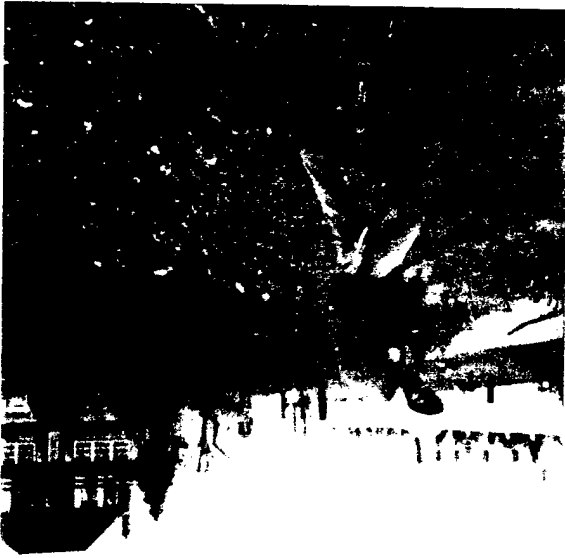
C2



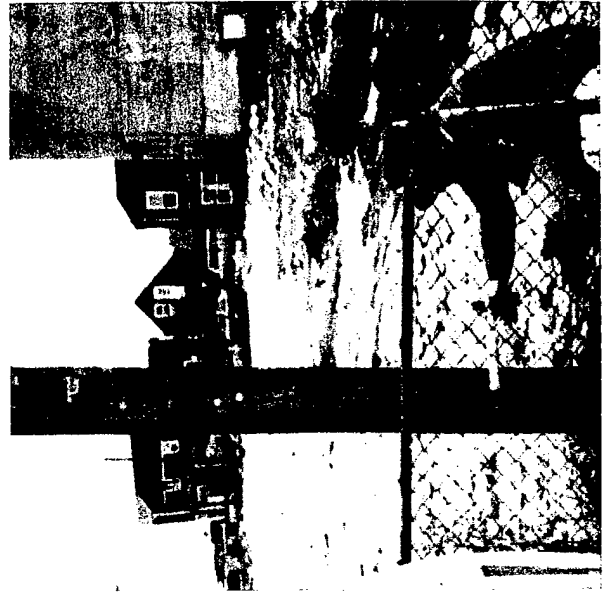
S8



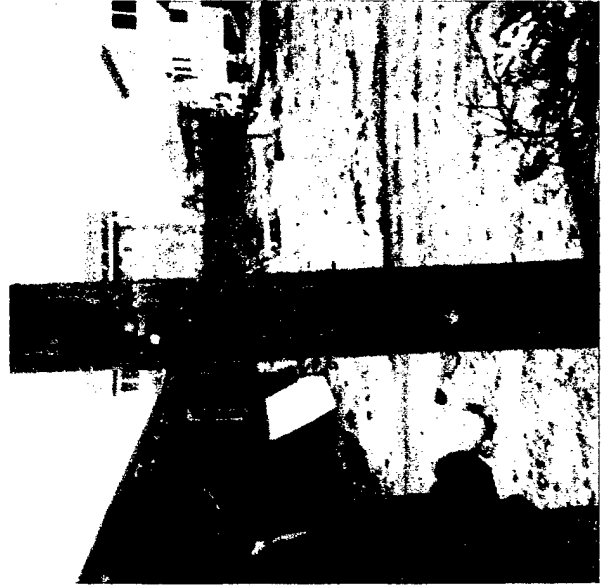
MZ



M4



M1



M3



D1



K1



P2

C3

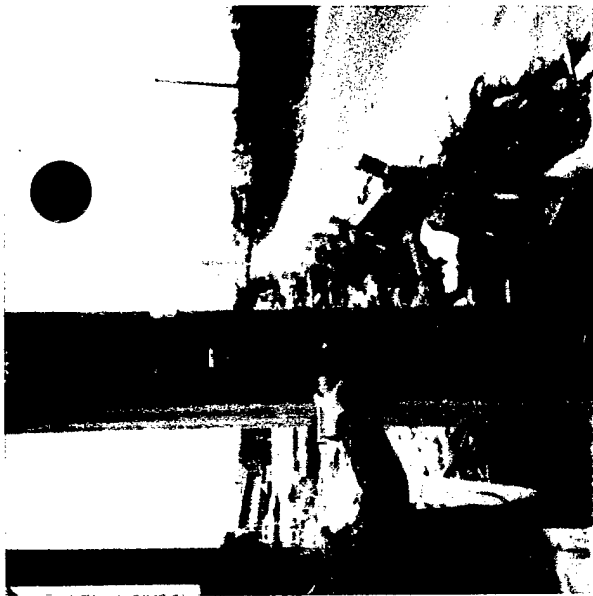


P1



P3





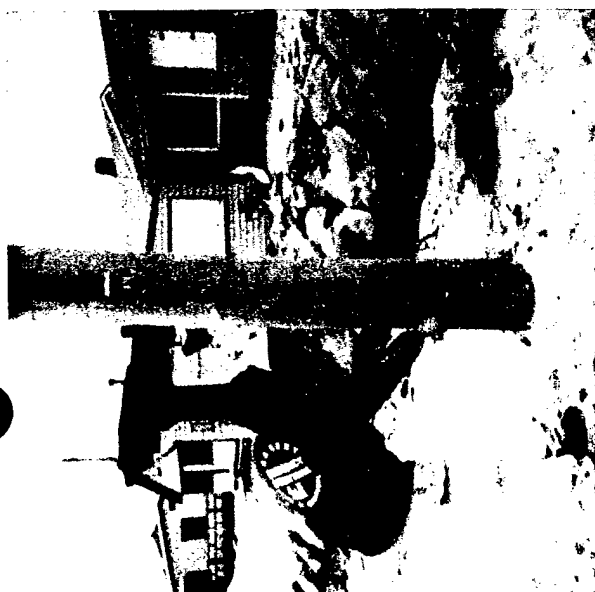
P4



P7



P5



P6



P8



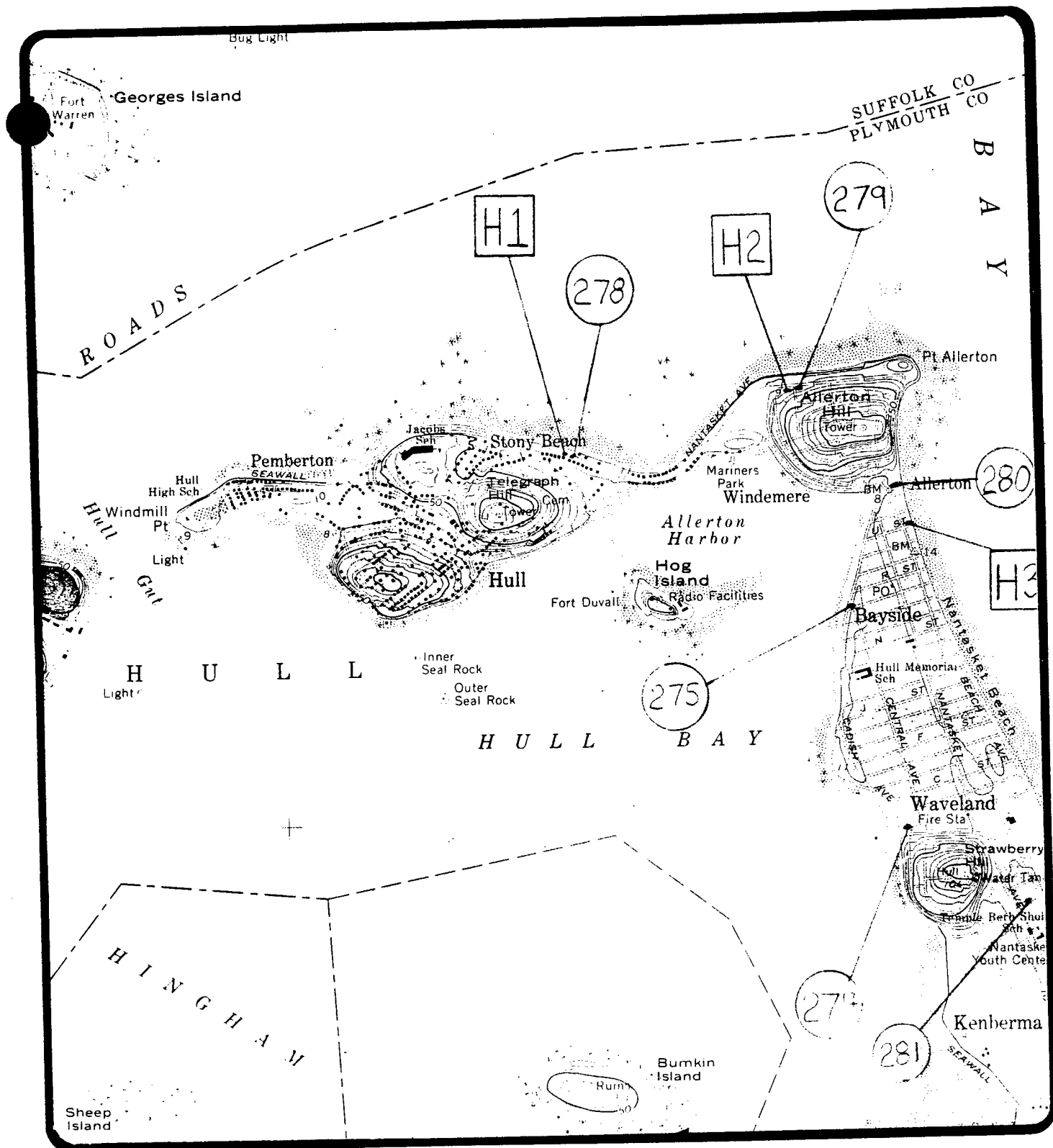
B 1



SA 1



P9



High Water Mark Location Map Halloween Storm, October, 1991

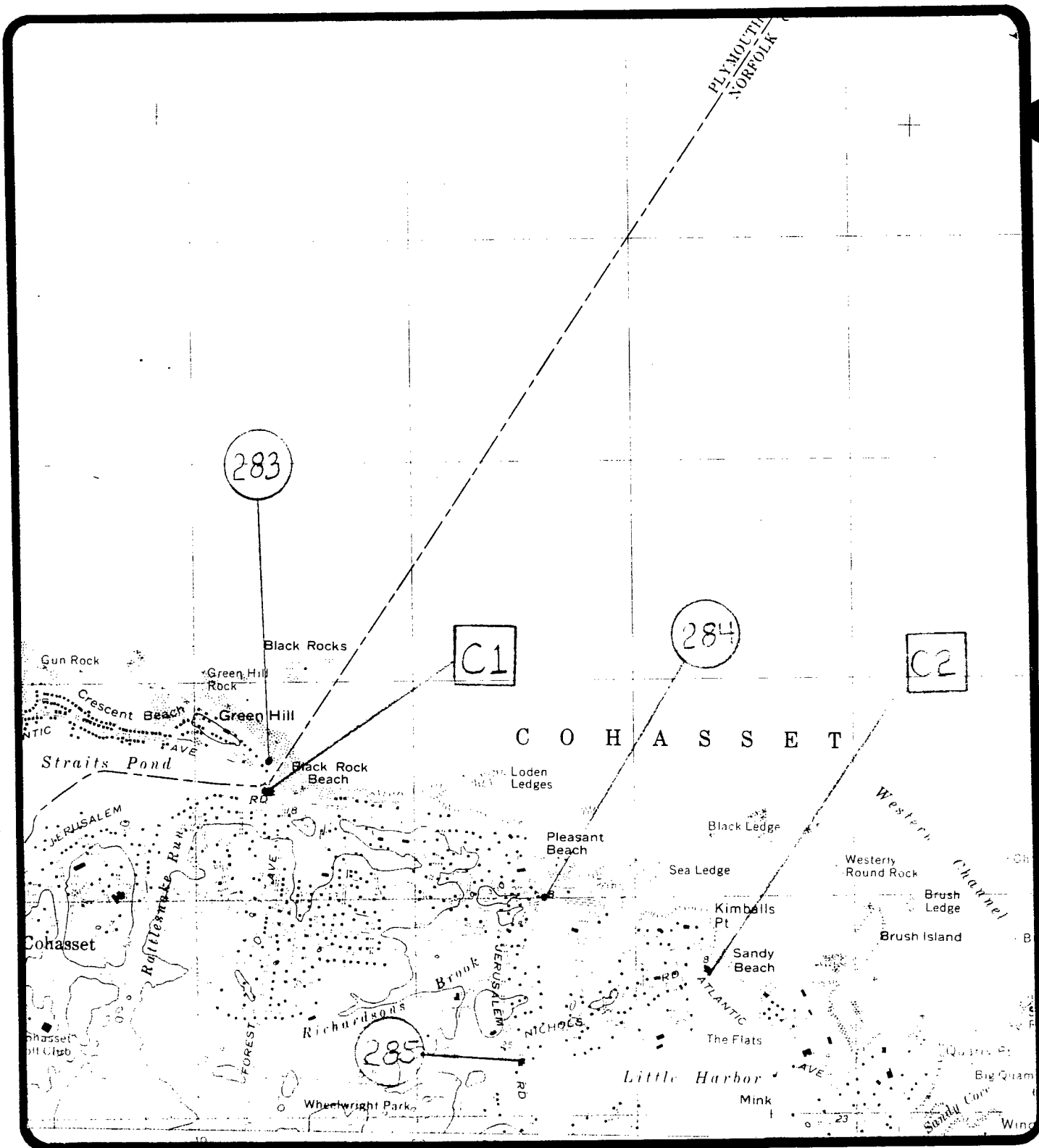
USGS 7.5 Minute Quadrangle - Hull, MA.

□ - 1991 ○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Nantasket Beach, MA.

□ - 1991

○ - 1978

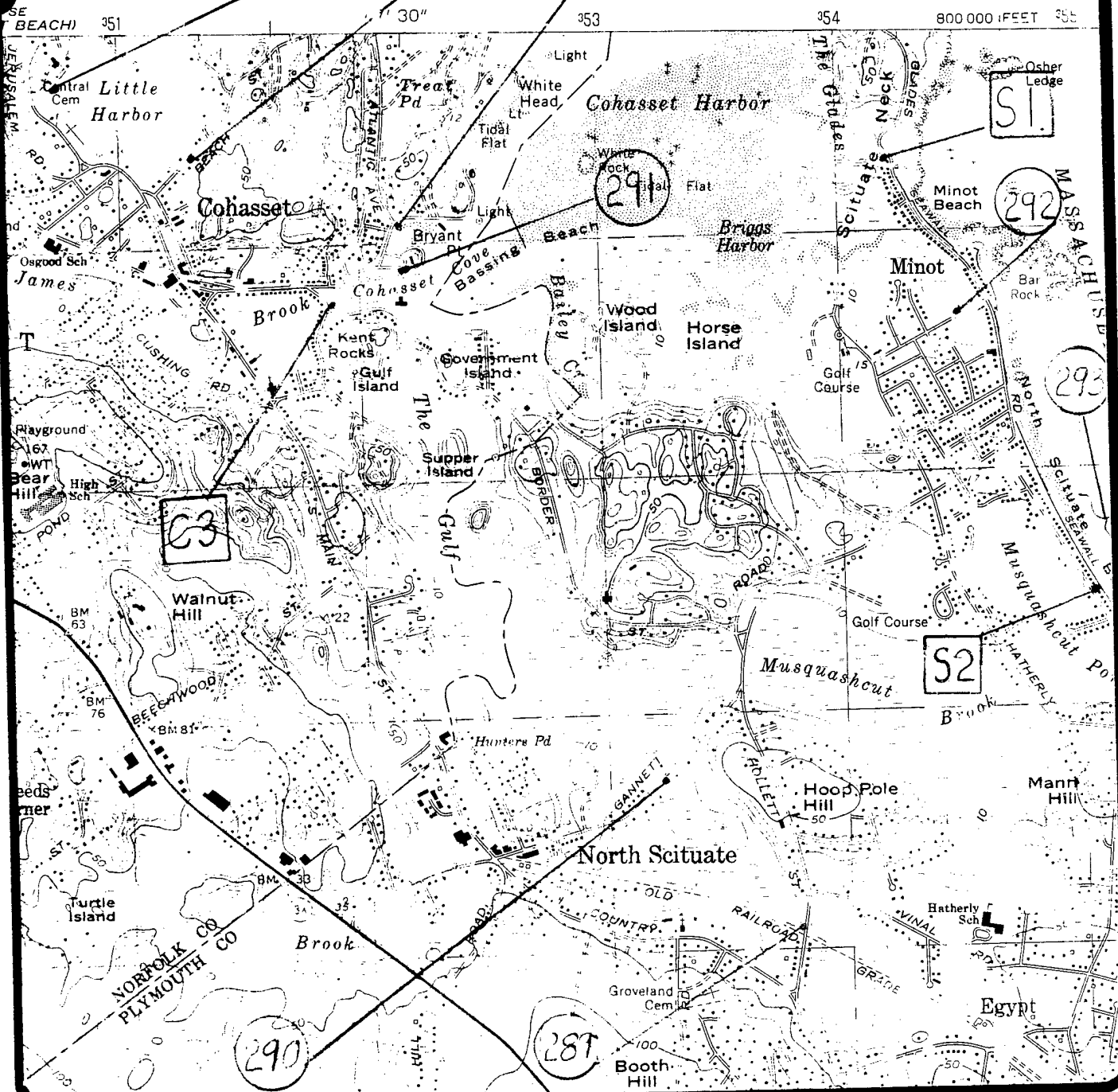
New England Division



US Army Corps
of Engineers

MASSACHUSETTS
PUBLIC WORKS

COHASSET QUADR
MASSACHUSETTS
7.5 MINUTE SERIES (TOP



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Cohasset, MA.

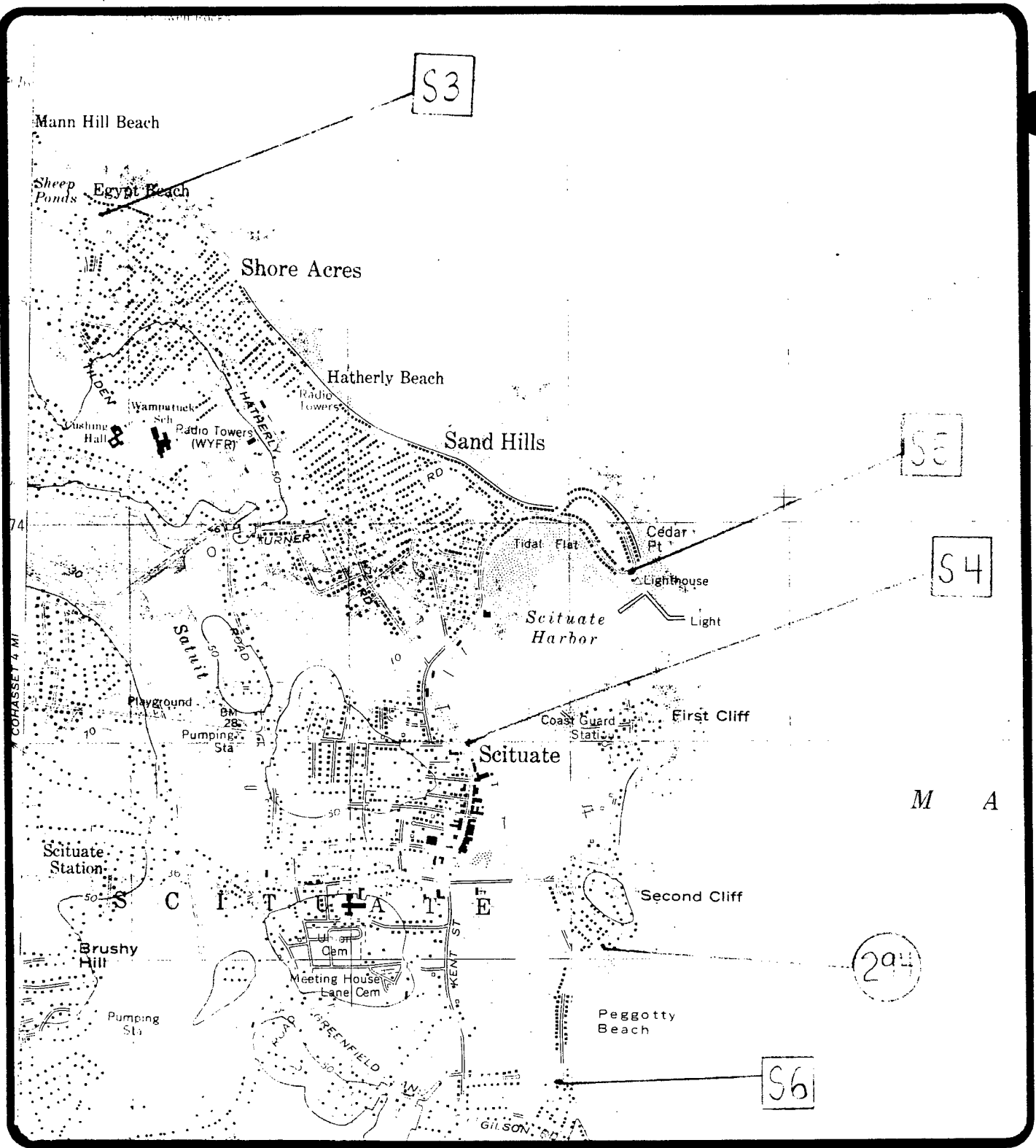
□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

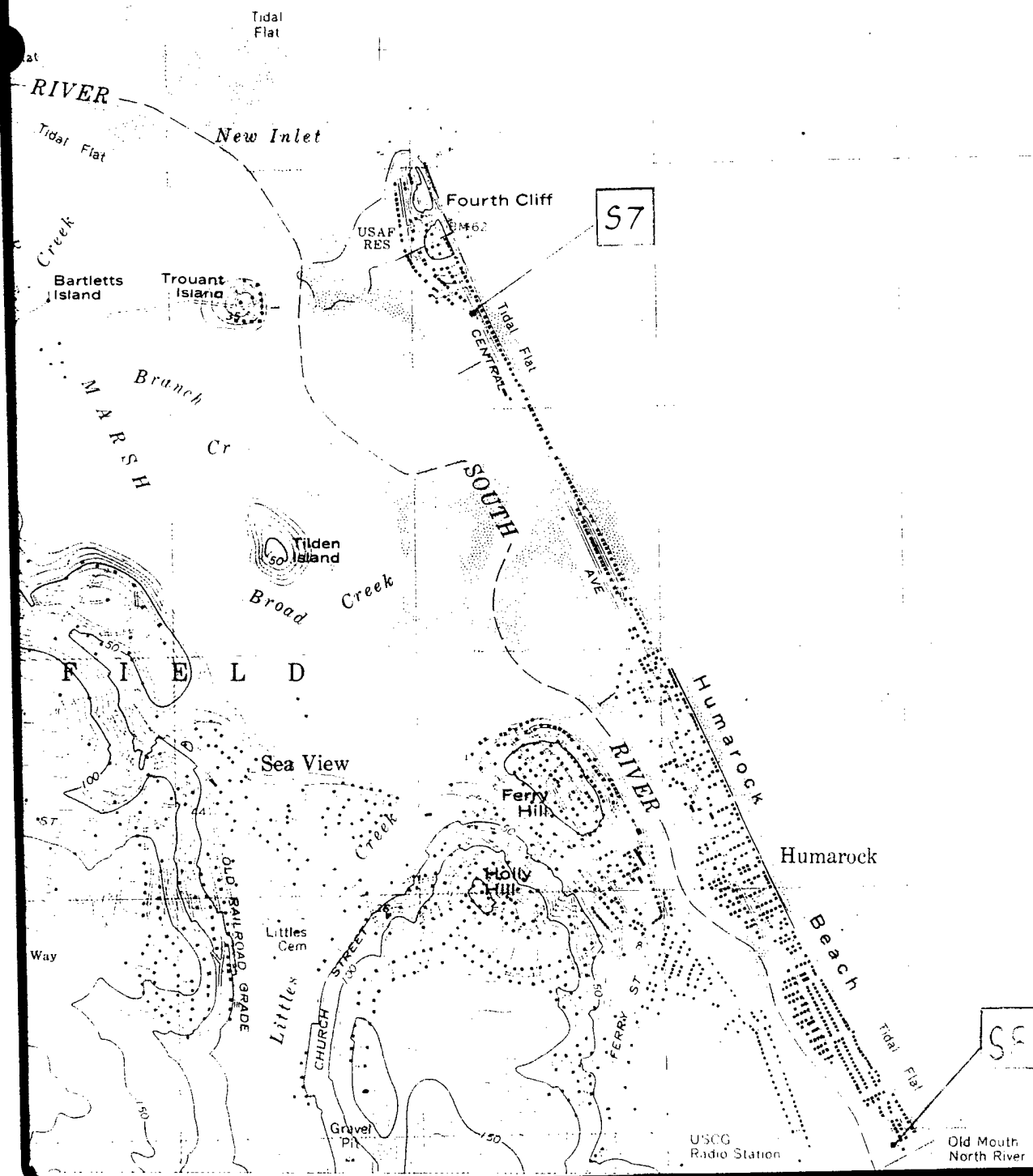
USGS 7.5 Minute Quadrangle - Scituate, MA.

□ - 1991 ○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Scituate, MA.

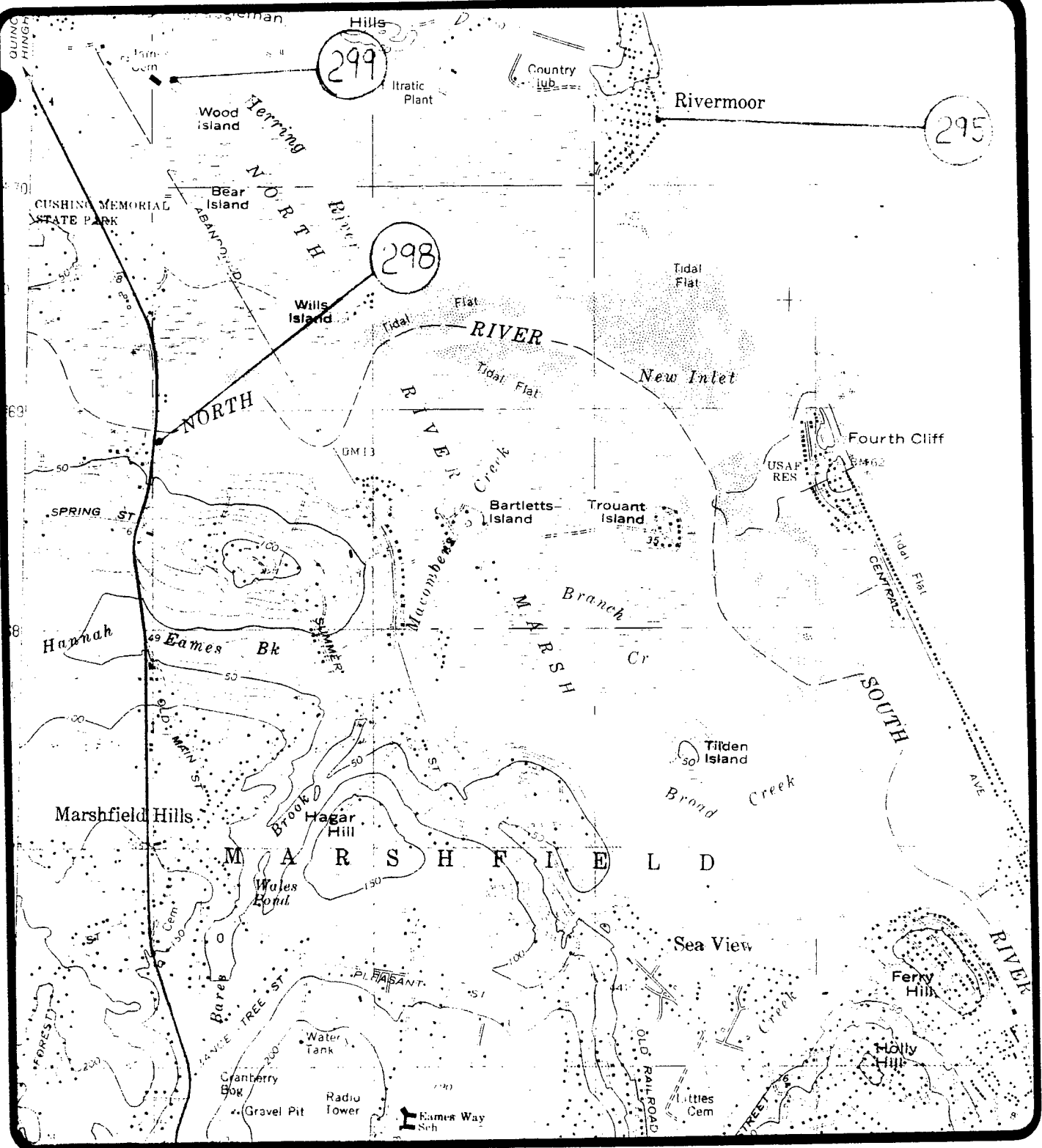
□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

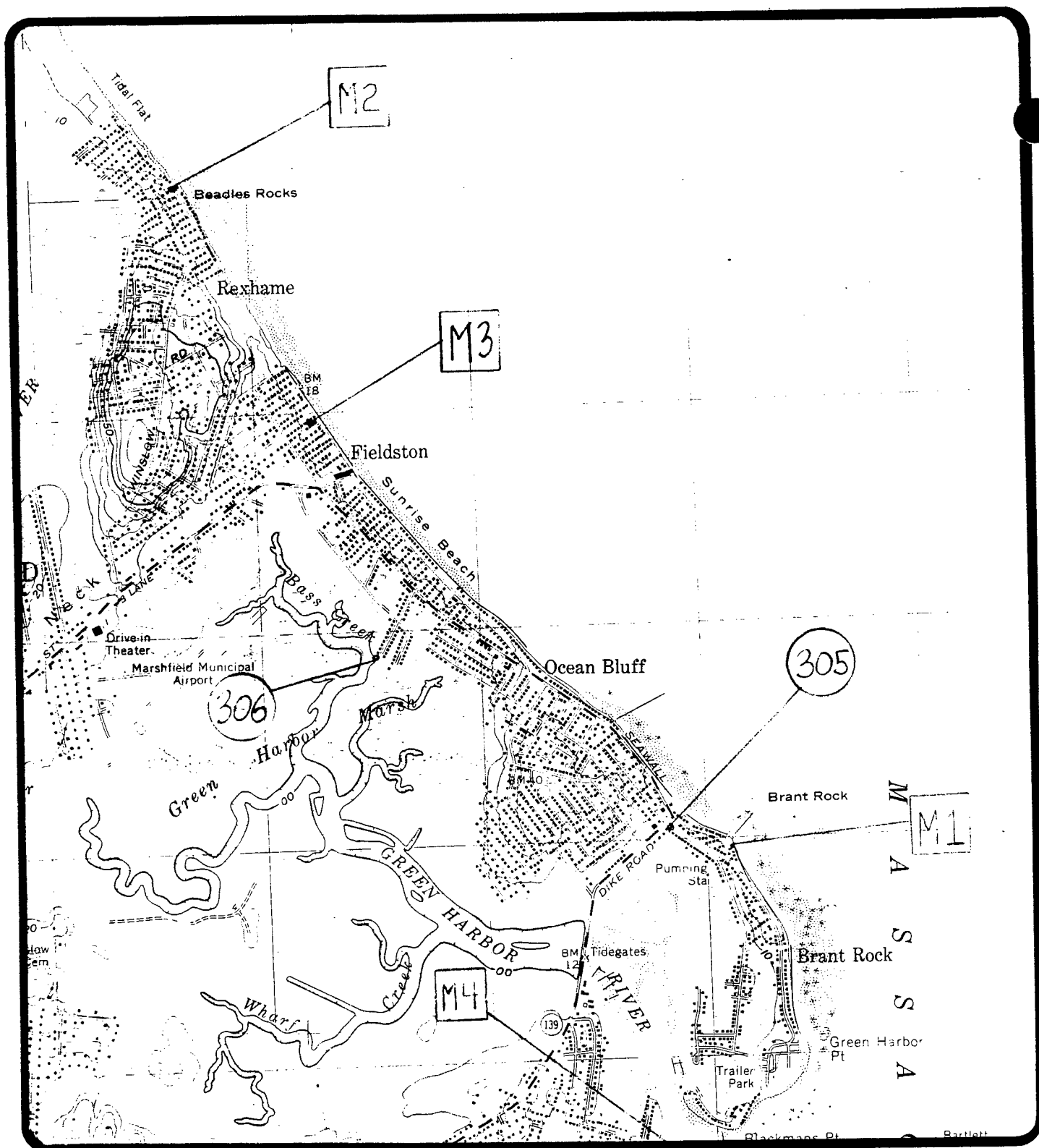
USGS 7.5 Minute Quadrangle - Scituate, MA.

□ - 1991 ○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Duxbury, MA.

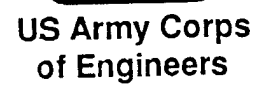
□ - 1991

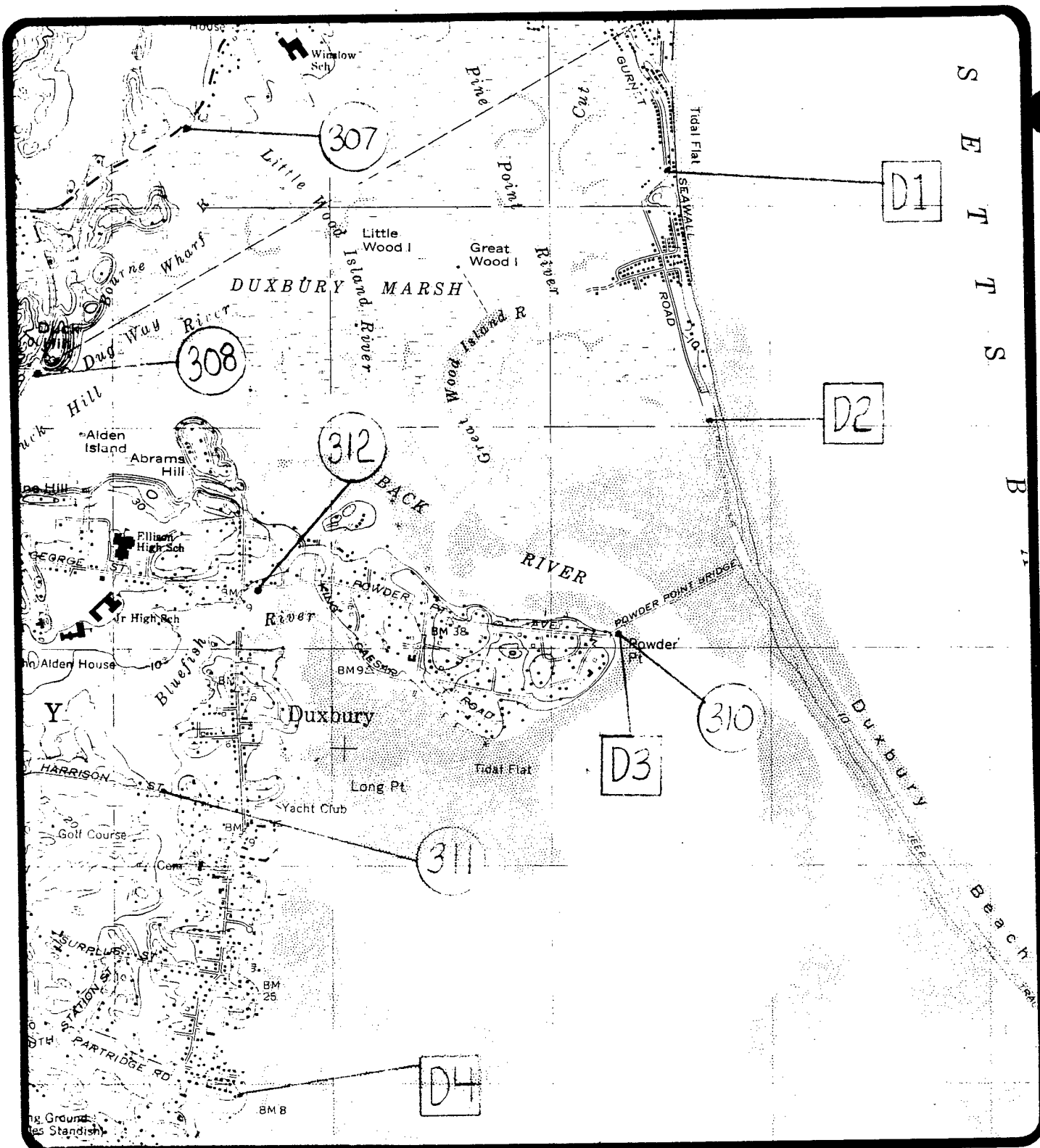
○ - 1978

New England Division



US Army Corps
of Engineers





High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Duxbury, MA.

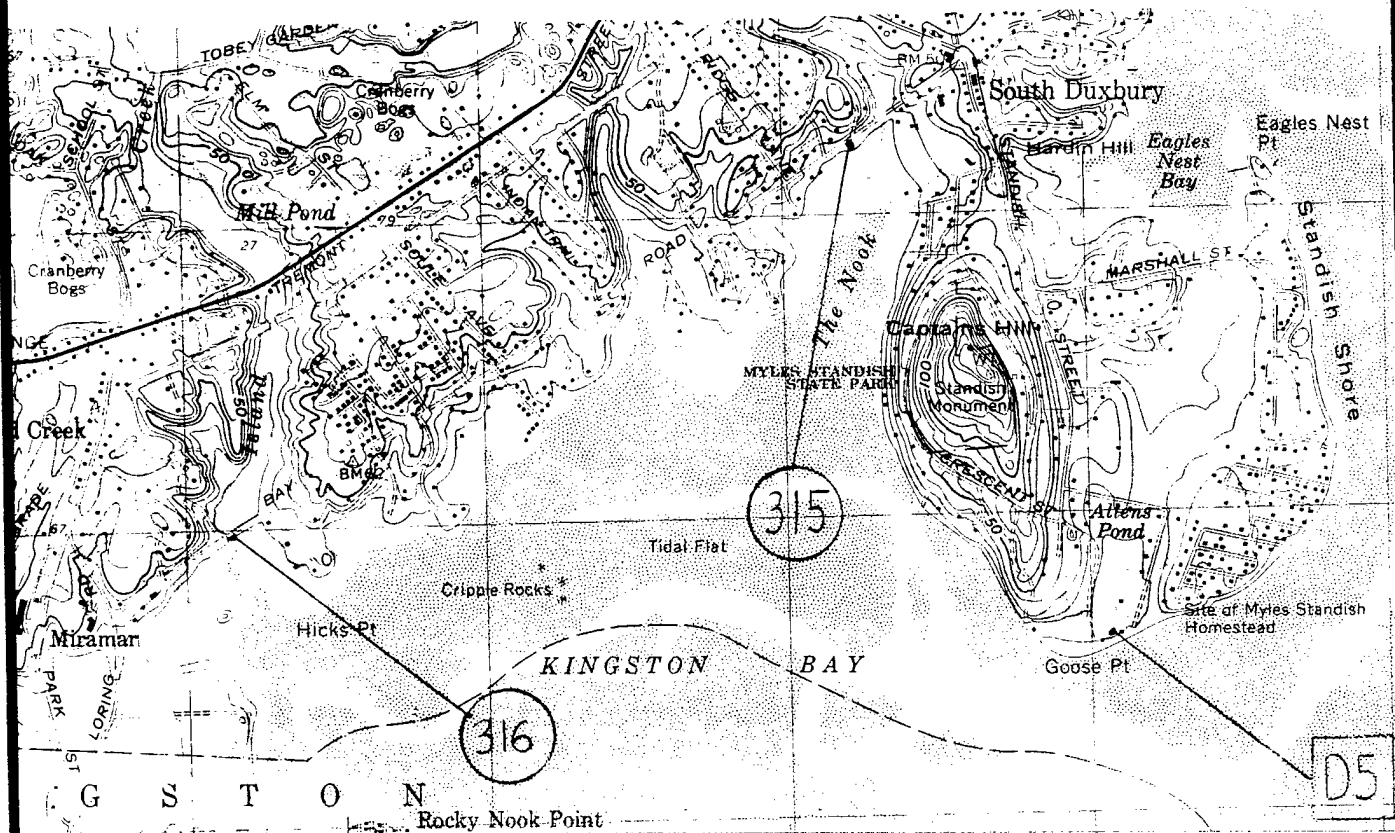
□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Duxbury, MA.

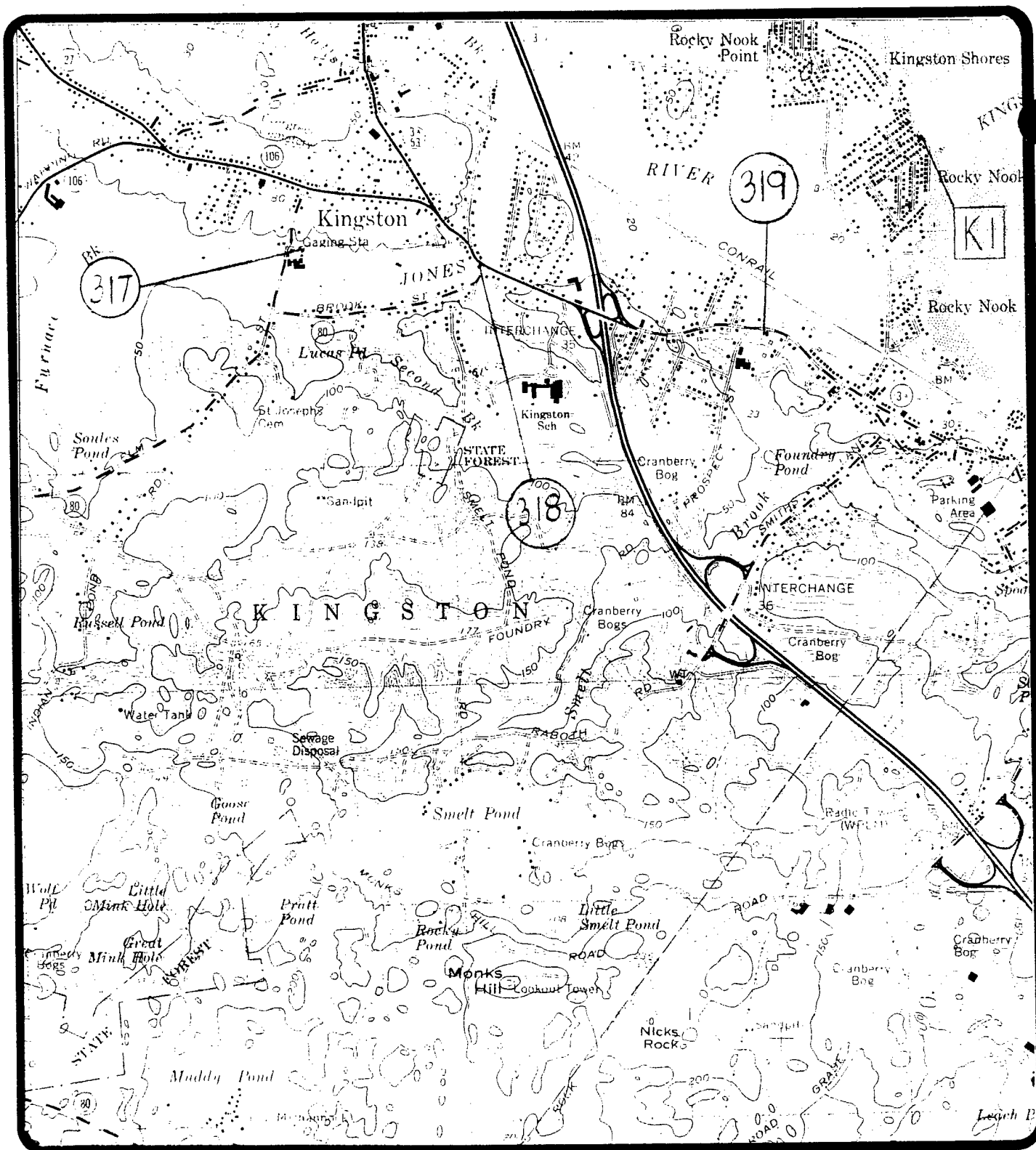
□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Plymouth, MA.

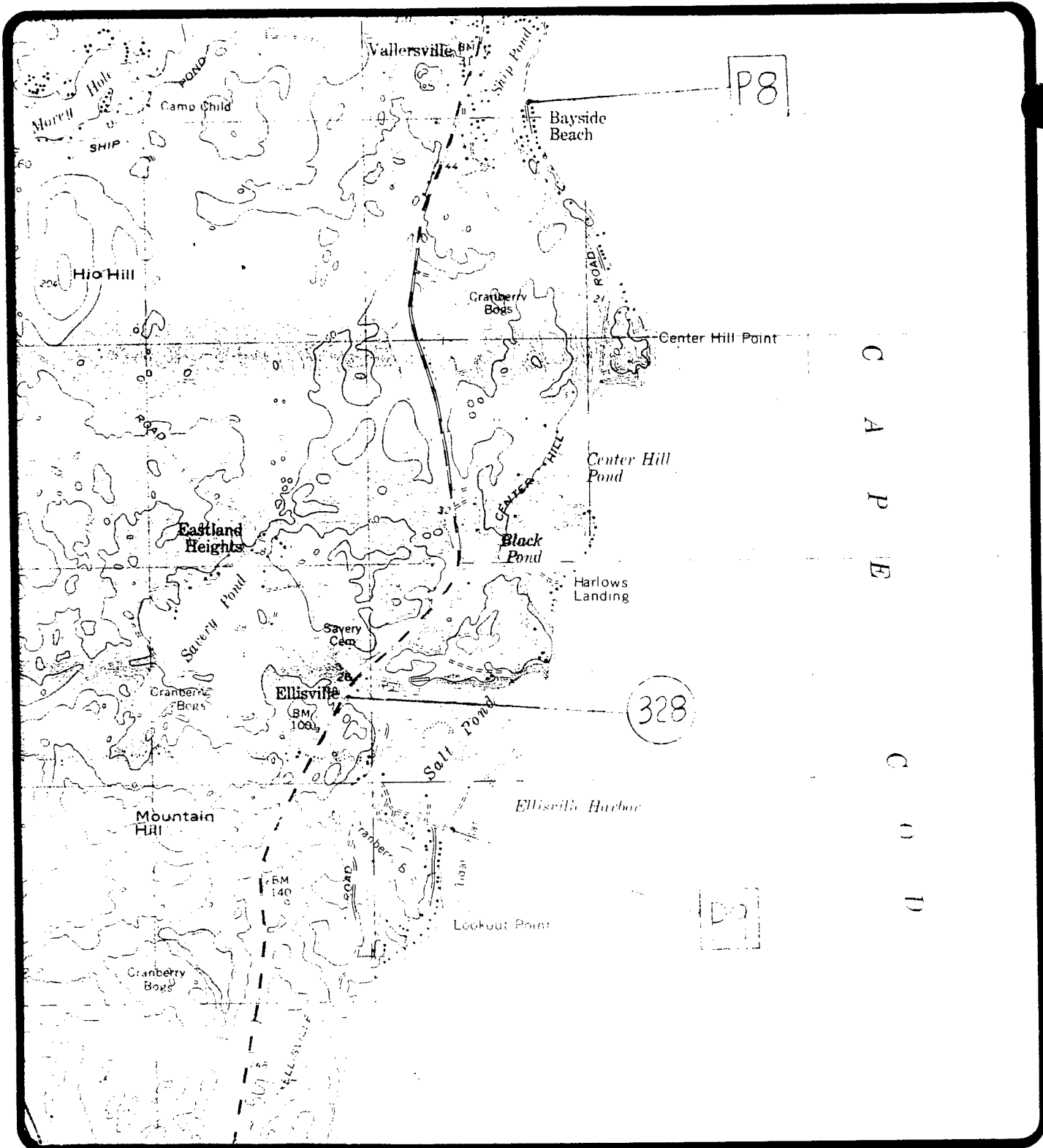
□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Sagamore, MA.

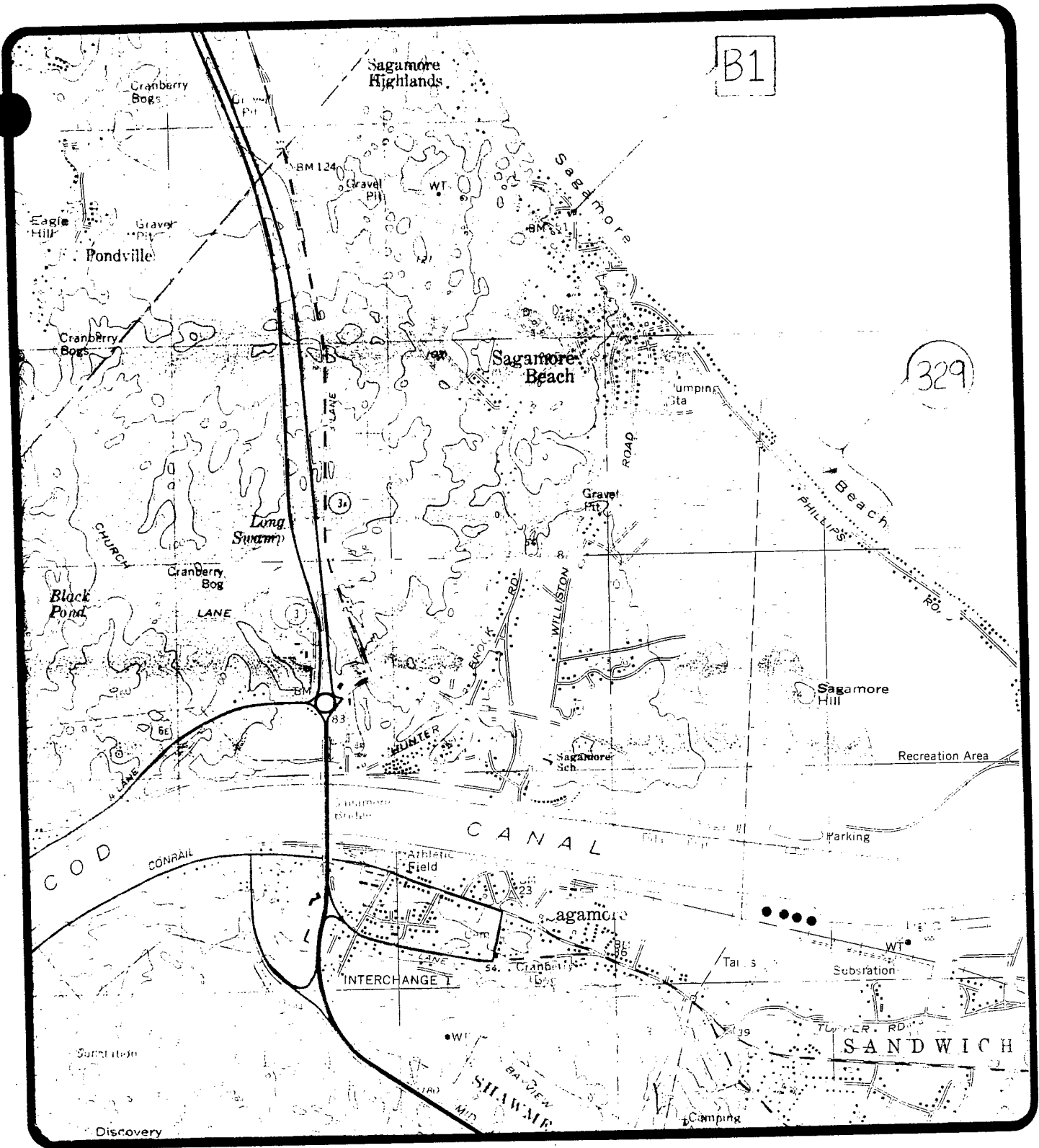
□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Sagamore, MA.

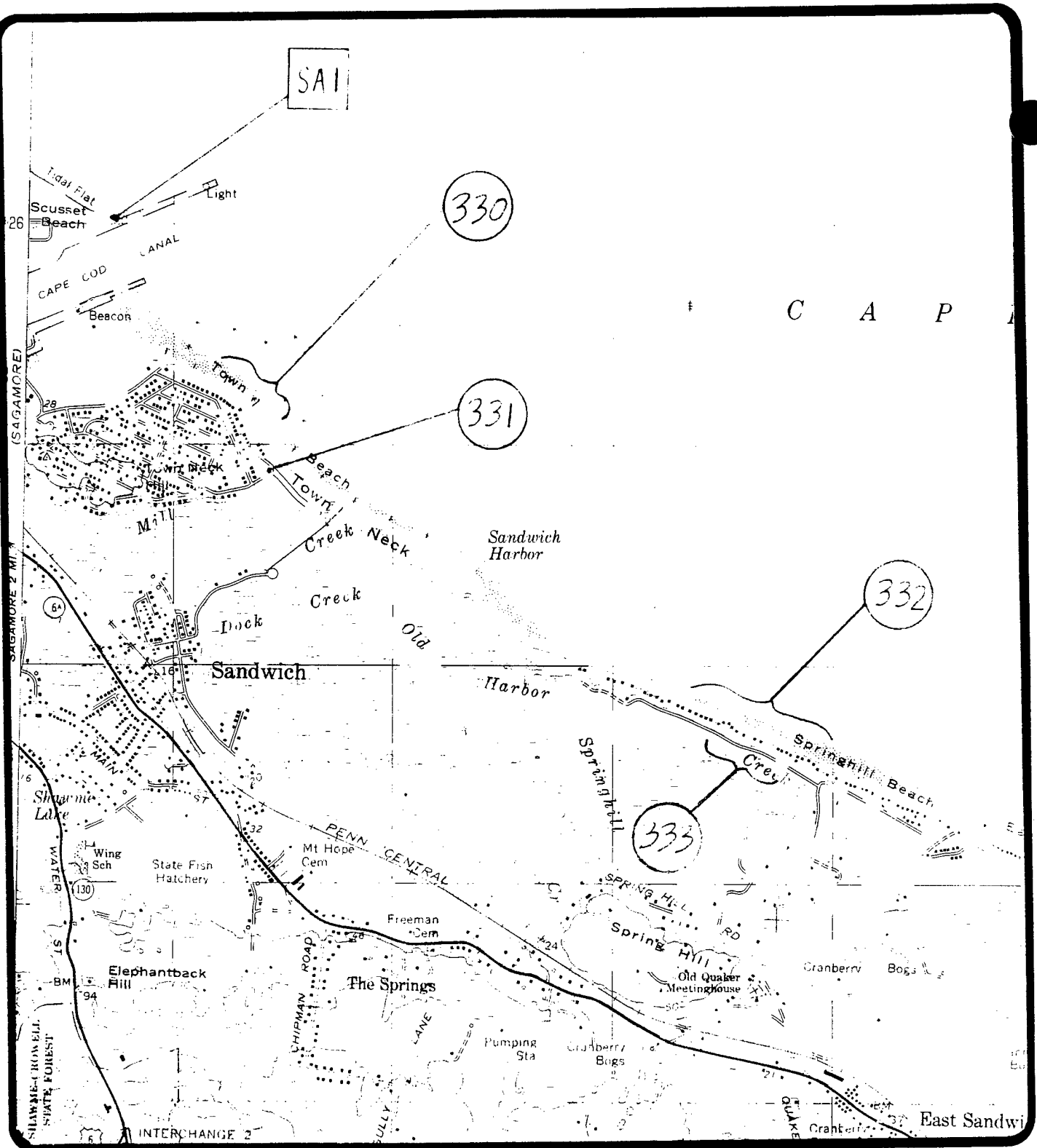
□ - 1991

○ - 1978

New England Division



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of Engineers



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Sandwich, MA.

□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers

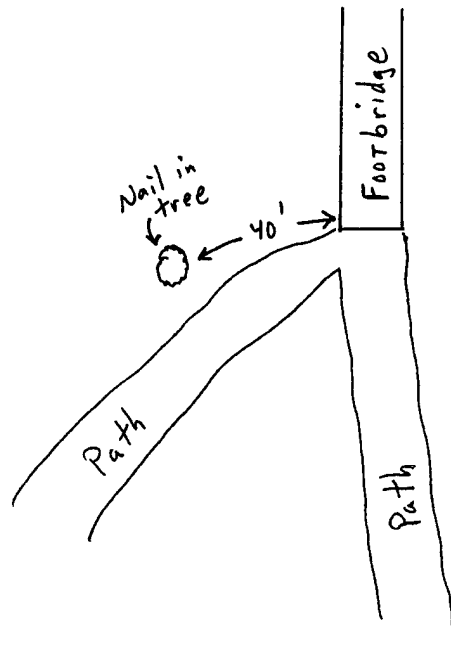
APPENDIX

CHATHAM TO PROVINCETOWN, MASSACHUSETTS

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Coastguard Beach, Nauset Bay (Name of River, Bay or Harbor)	(Miles from Mouth)	E 1 (Watermark No.)	
(Tributary of)	Eastham (City or Town)	MA (State)	
Description of high watermark: Nail in tree about 40' from east end of foot- bridge along the southerly path (see sketch on back)			
11/5/91 (Date obtained)	Bob Martin and Dave Larsen (Obtained by)		
Frank Ackerman-Cape Cod National Seashore-Maintenance (Name and address of person pointing out high watermark)			
observed (If not pointed out, how obtained?)	(Date and hour of high watermark)		
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)			



E 1

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New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Coastguard Beach		E 2
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Eastham	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Nail in wood support pile southwest edge of
bridge on Doane Road (see on back).

11/5/91	Bob Martin and Dave Larsen
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

observed	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

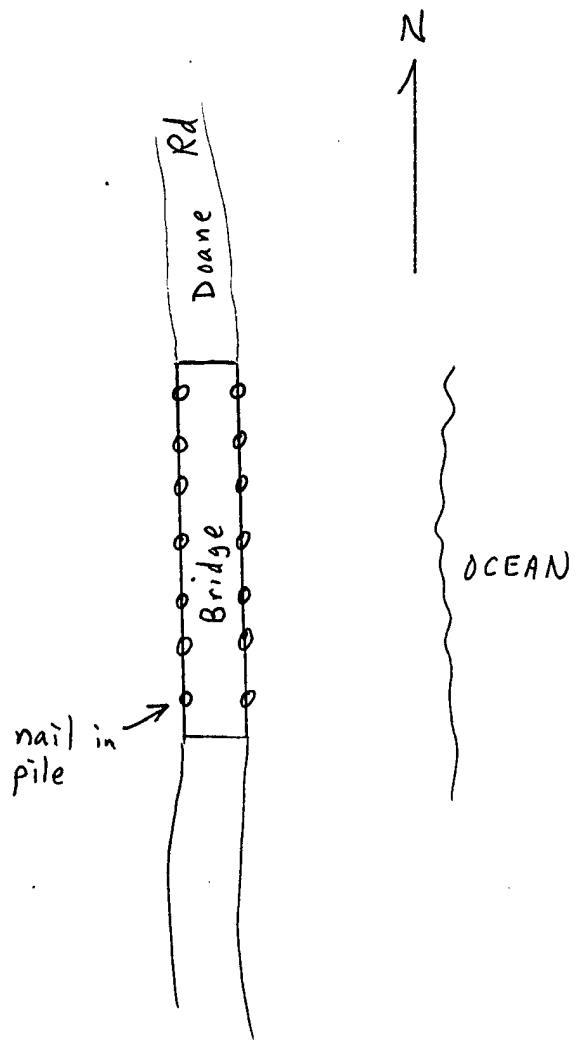
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
--------------------------------------	---------------------------------------

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)



E2

DEPARTMENT OF THE ARMY
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Town Cove
(Name of River, Bay or Harbor)

(Miles from Mouth)

E3
(Watermark No.)

(Tributary of)

Eastham
(City or Town)

MA
(State)

Description of high watermark: Nail in Osmose pole #3 on Ellis Road in front
of house #6 about 3' above ground.

11/5/91

(Date obtained)

Bob Martin and Dave Larsen

(Obtained by)

(Name and address of person pointing out high watermark)

observed

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Town Cove (Name of River, Bay or Harbor)	(Miles from Mouth)	OR 1 (Watermark No.)
(Tributary of)	Orleans (City or Town)	MA (State)

Description of high watermark: Nail in Osmose pole #25 on Cove Road near the town landing, nail is at the base of the pole.

11/5/91
(Date obtained)

Bob Maritn and Dave Larsen
(Obtained by)

Gardner Jameson, Asst. Harbor Master

(Name and address of person pointing out high watermark)

observed
(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour) (Class. of watermark)

(Elevation determined by)

(Date) (Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Nauset Harbor OR2
(Name of River, Bay or Harbor) (Miles from Mouth) (Watermark No.)
Roberts Cove Orleans MA
(Tributary of) (City or Town) (State)

Description of high watermark: Nail in tree at east end of cul-de-sac on
Mill Pond Road on Rocky Point.

11/5/91 Bob Martin and Dave Larsen
(Date obtained) (Obtained by)

(Name and address of person pointing out high watermark)

observed
(If not pointed out, how obtained?) (Date and hour of high watermark)

(Elev. of high watermark) (Datum) (Benchmark referred to) (Datum)

(Elevation of high watermark (Date & Hour) (Class. of watermark)
above water surface)

(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Meeting House Pond		OR3
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
Little Pleasant Bay	Orleans	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Nail in NET + T CO. pole #21 on River Road
at the town landing.

11/5/91	Bob Martin and Dave Larsen
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

observed

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Pleasant Bay OR 4
(Name of River, Bay or Harbor) (Miles from Mouth) (Watermark No.)

(Tributary of) Orleans MA
(City or Town) (State)

Description of high watermark: Nail in NET + T CO. pole #216 on Rte. 28

(So. Orleans Rd.) near Tap Kiln Road

11/5/91 Bob Martin and Dave Larsen
(Date obtained) (Obtained by)

(Name and address of person pointing out high watermark)

observed (Date and hour of high watermark)
(If not pointed out, how obtained?)

(Elev. of high watermark) (Datum) (Benchmark referred to) (Datum)

(Elevation of high watermark (Date & Hour) (Class. of watermark)
above water surface)

(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Description of high watermark: Nail in road north of breach in dunes (see sketch).

(Name and address of person pointing out high watermark)

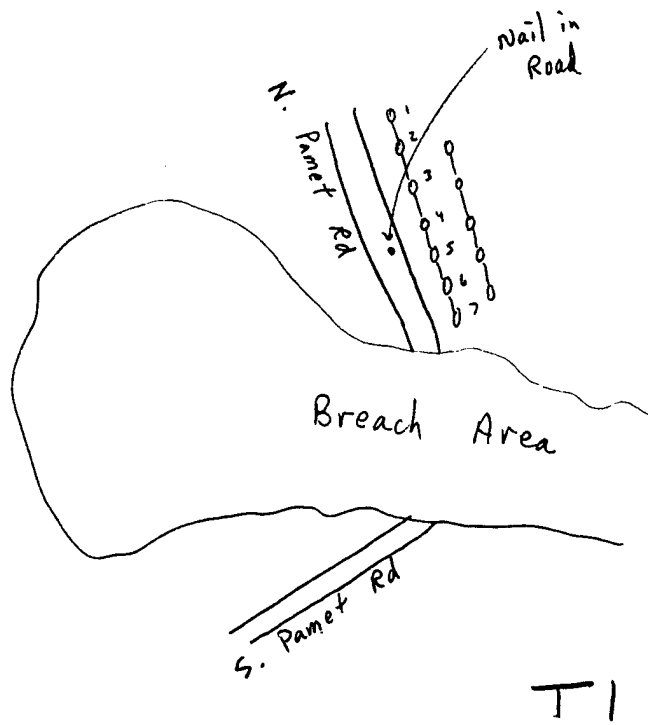
<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>

(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
--	---------------	-----------------------

(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)



Nail located
7'7" from 4th fence post
8' from 5th fence post

New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Cape Cod Bay</u> (Name of River, Bay or Harbor)	<u></u> (Miles from Mouth)	<u>PR 1</u> (Watermark No.)
<u>Herring Cove Beach</u> (Tributary of)	<u>Provincetown</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: Nail in road in Herring Cove Beach National
Park area (see sketch on back)

<u>11/5/91</u> (Date obtained)	<u>Bob Martin and Dave Larsen</u> (Obtained by)
-----------------------------------	--

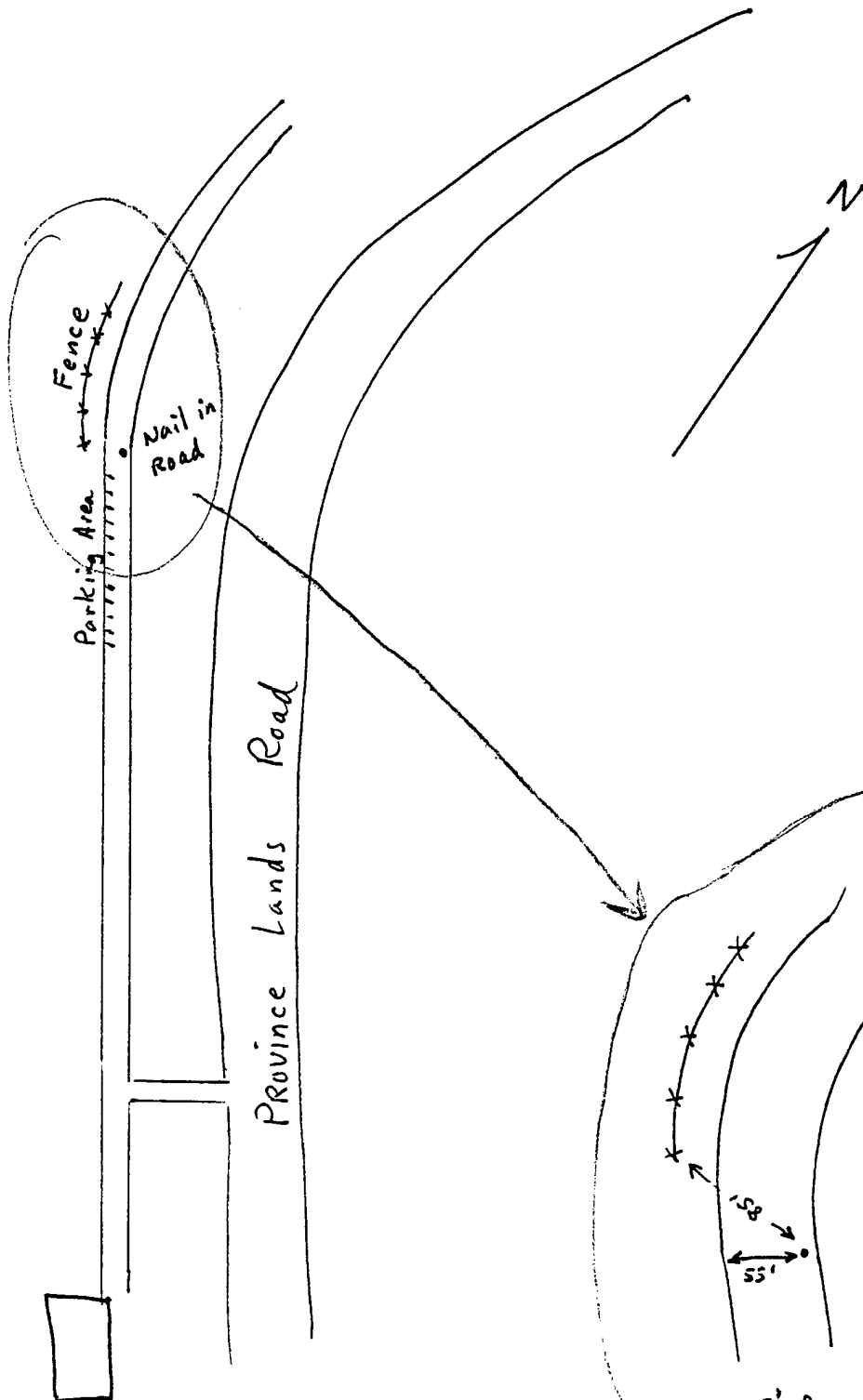
(Name and address of person pointing out high watermark)
observed
(If not pointed out, how obtained?)

(Date and hour of high watermark)

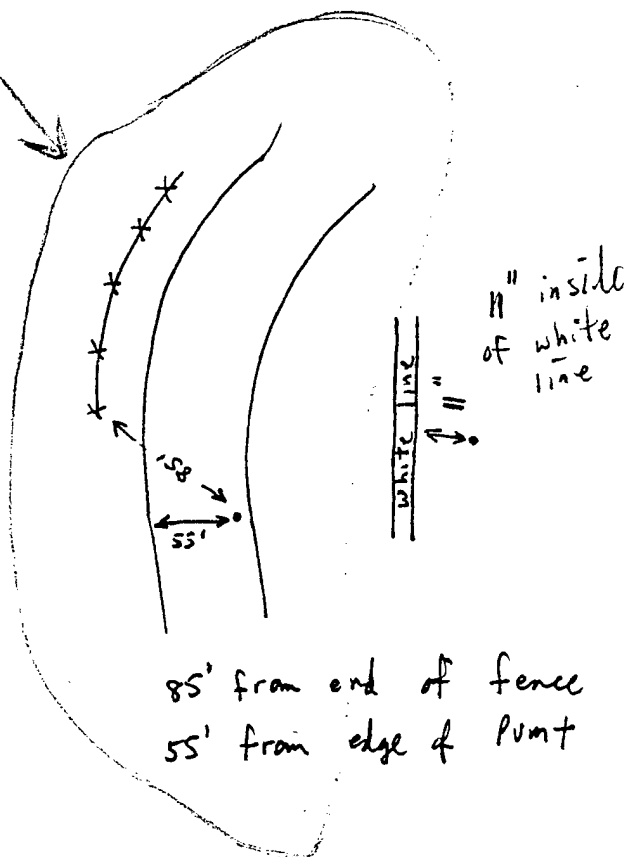
<u>(Elev. of high watermark)</u>	<u>(Datum)</u>	<u>(Benchmark referred to)</u>	<u>(Datum)</u>
<u>(Elevation of high watermark above water surface)</u>	<u>(Date & Hour)</u>	<u>(Class. of watermark)</u>	
<u>(Elevation determined by)</u>	<u>(Date)</u>	<u>(Order of levels)</u>	
<u>(Nearest dam upstream or downstream)</u>	<u>(Latitude and longitude of watermark)</u>		

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

OCEAN



PR1



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Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Stage Harbor		CH1
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Chatham	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Stake in ground under fence from NET + T CO.

POLE #1 on Champlain Rd. near Marsh Lane

11/6/91

(Date obtained)

Bob Martin and Dave Larsen

(Obtained by)

(Name and address of person pointing out high watermark)

observed

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Description of high watermark: Metal bar on south side of the east abutment
of the Bridge Street bridge over the Mitchell River.

(Name and address of person pointing out high watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Chatham River

(Name of River, Bay or Harbor)

(Miles from Mouth)

CH3
(Watermark No.)

(Tributary of)

Chatham

(City or Town)

MA

(State)

Description of high watermark:

Nail in NET + T CO. pole #72/3 on Little

Beach Road about 3' above ground.

11/6/91

(Date obtained)

Bob Martin and Dave Larson

(Obtained by)

(Name and address of person pointing out high watermark)

observed

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

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New England Division, Corps of Engineers
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Chatham Harbor
(Name of River, Bay or Harbor)

(Miles from Mouth)

CH4
(Watermark No.)

(Tributary of)

Chatham
(City or Town)

MA
(State)

Description of high watermark: Paint mark on concrete post at town landing on
Cowyard Lane. Mark is 6" below top of last post on right looking toward harbor.

11/6/91

(Date obtained)

Bob Martin and Dave Larsen

(Obtained by)

(Name and address of person pointing out high watermark)

observed

(If not pointed out, how obtained?)

(Date and hour of high watermark)

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

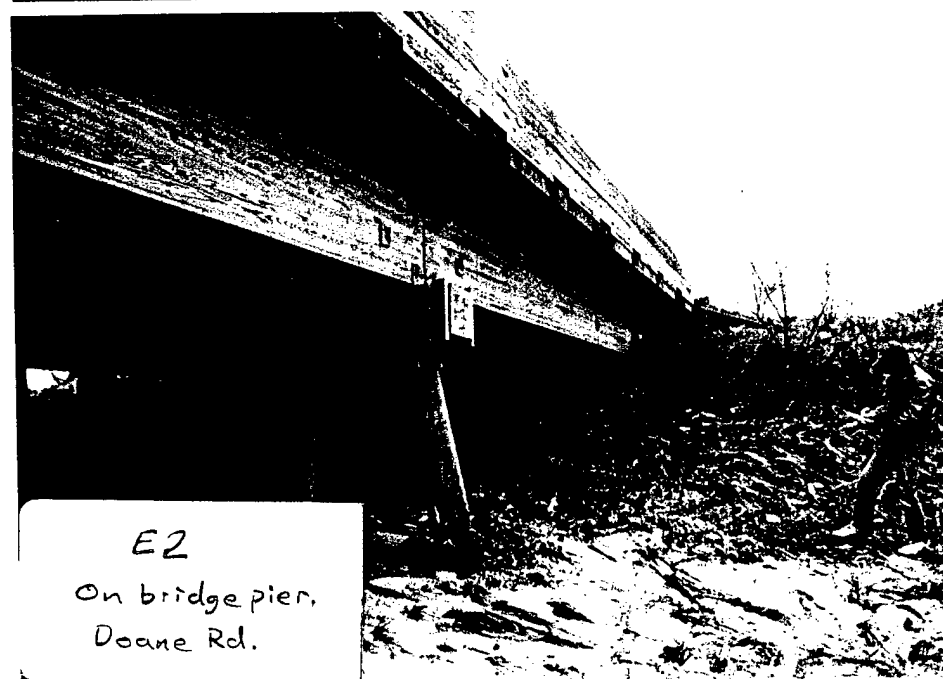
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)



E1
(In tree)
Coast Guard
Beach



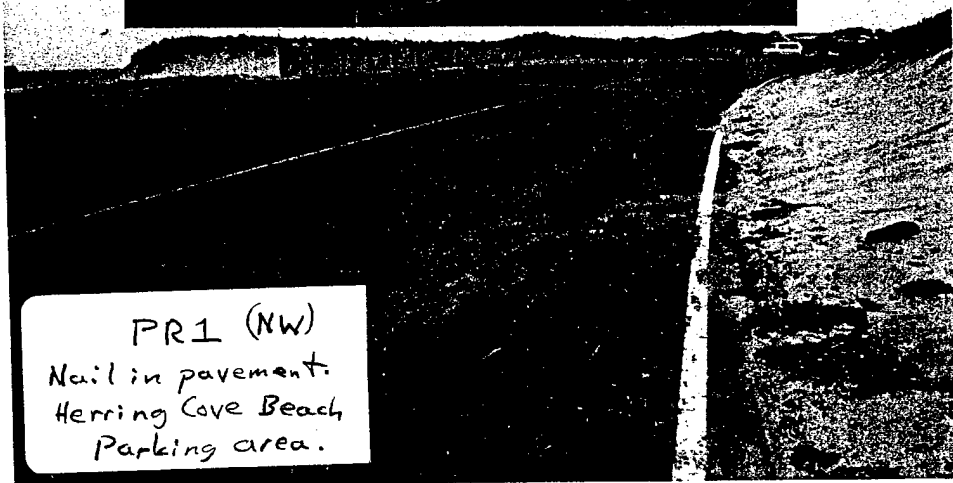
E2



E2
On bridge pier,
Doane Rd.



T1
Nail in pavement.
Ballston Beach



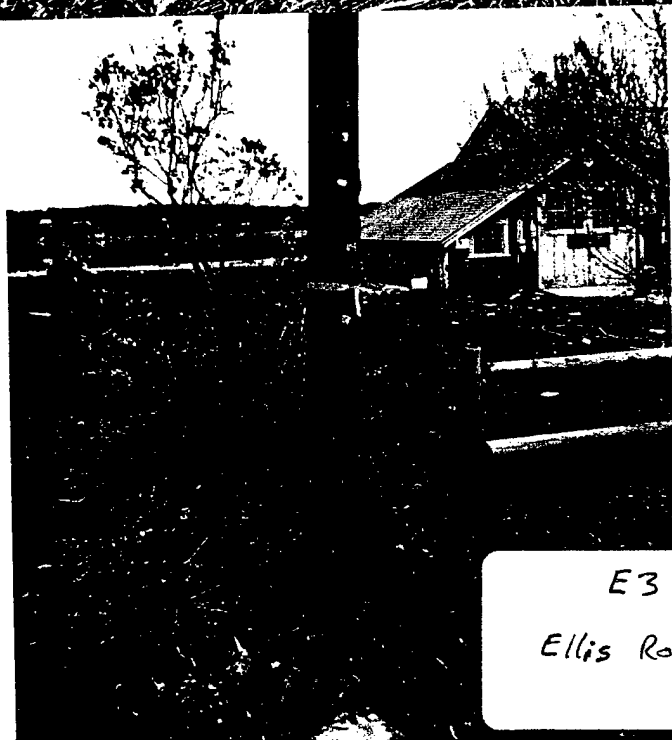
PR1 (NW)
Nail in pavement.
Herring Cove Beach
Parking area.



PR1 (S)
Herring Cove Beach
Parking area.



OR1
@ end of Cove Rd.
near Orleans
Yacht Club



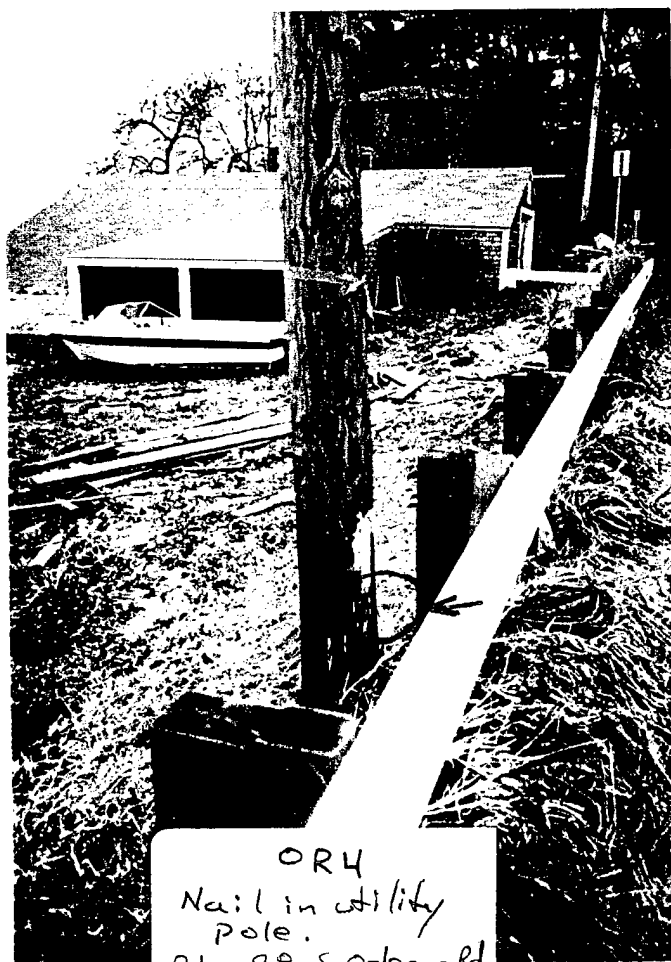
E3
Ellis Road



OR2
Mill Pond Rd.,
@ Robert's Cove



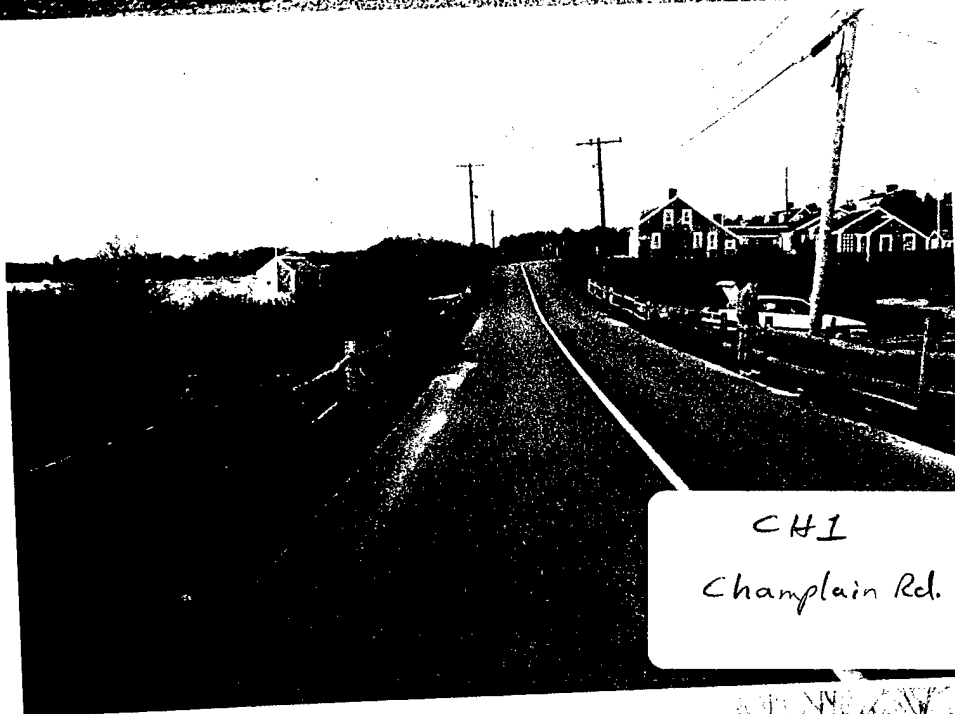
OR3
Nail in utility pole
near ground level.
River Rd. @ Town
Landing



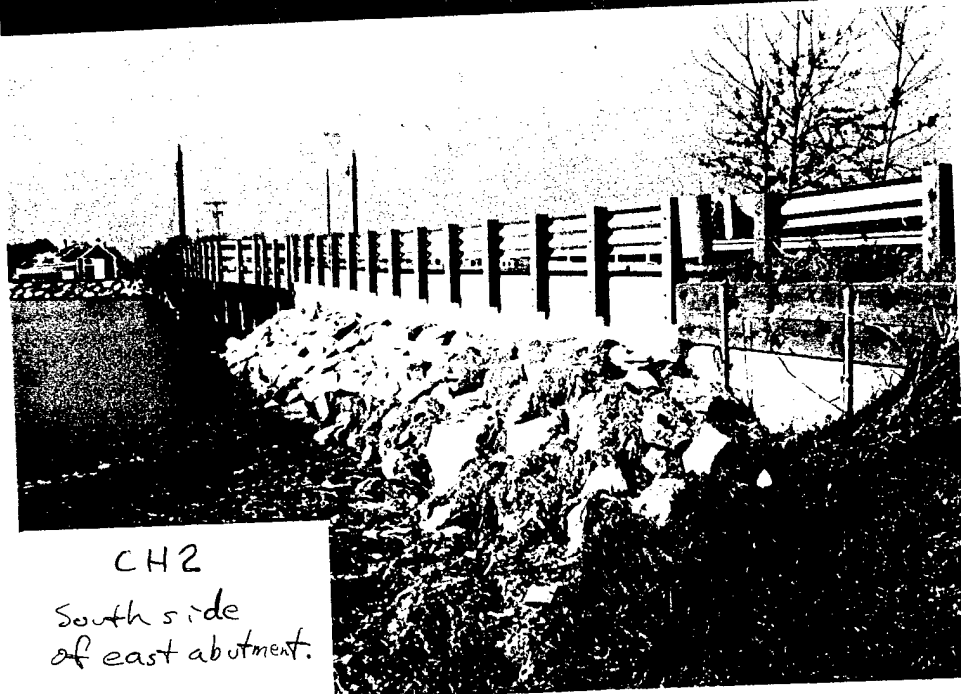
OR4
Nail in utility
pole.
Rte. 28, S. Orleans Rd.



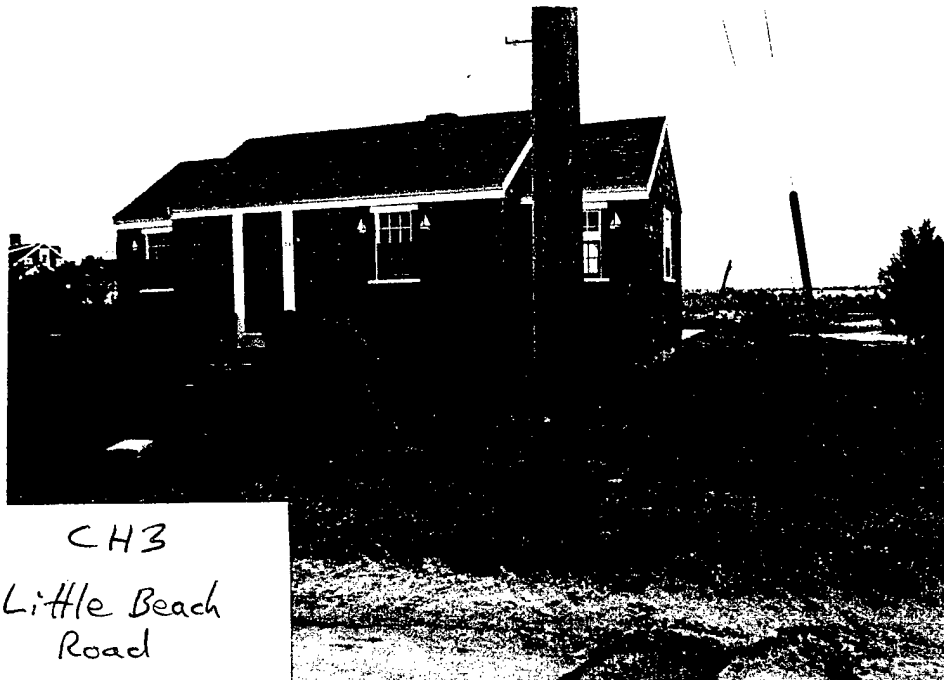
CH1
Under fence
along Champlain
Road.



CH1
Champlain Rd.



CH2
South side
of east abutment.



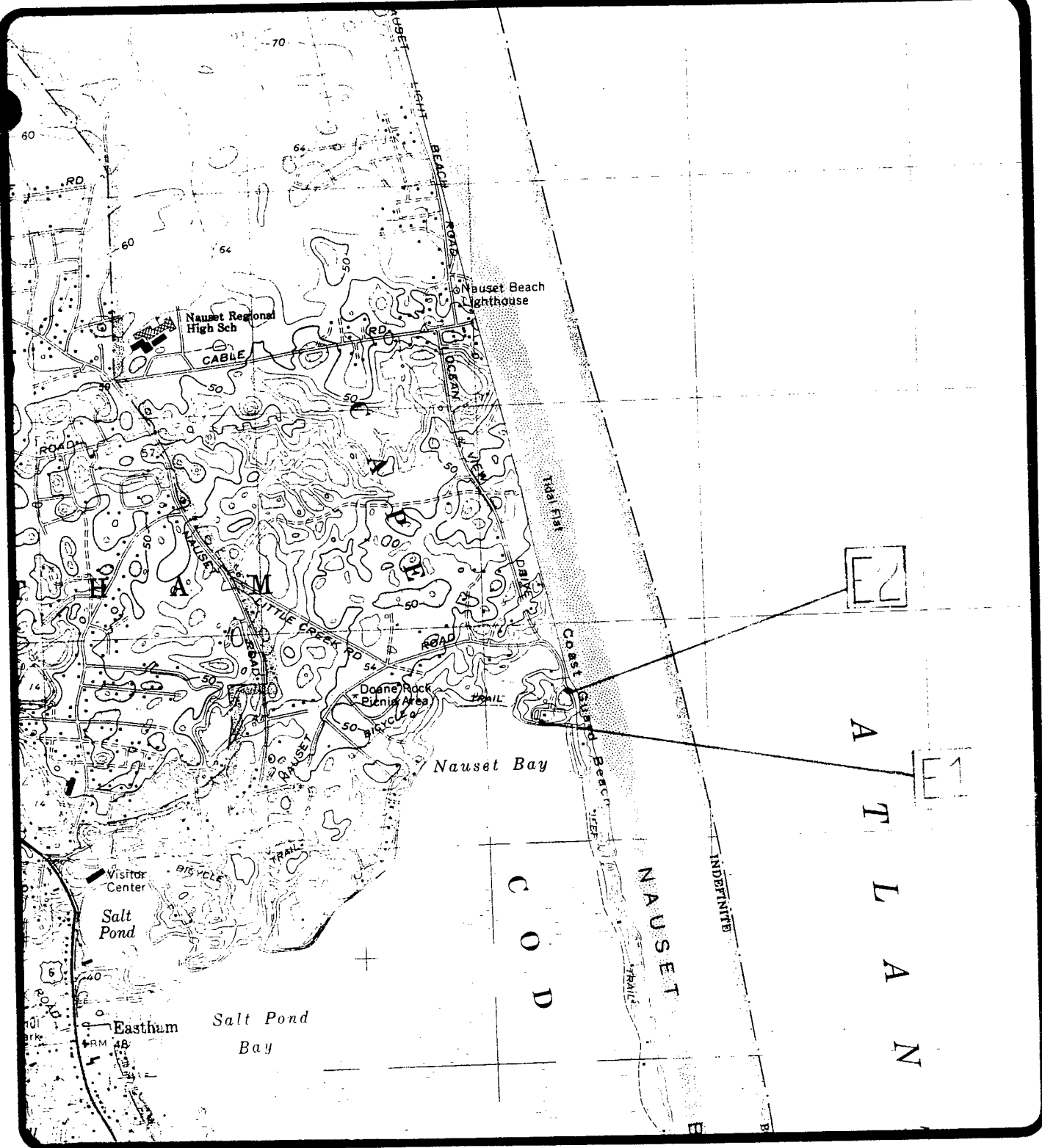
CH3
Little Beach
Road



CH5
Water level just
below window sill.
End of Ryder's Cove Rd.

CH4
End of
Cowyard Lane





High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Orleans, MA.

□ - 1991 ○ - 1978

New England Division



US Army Corps
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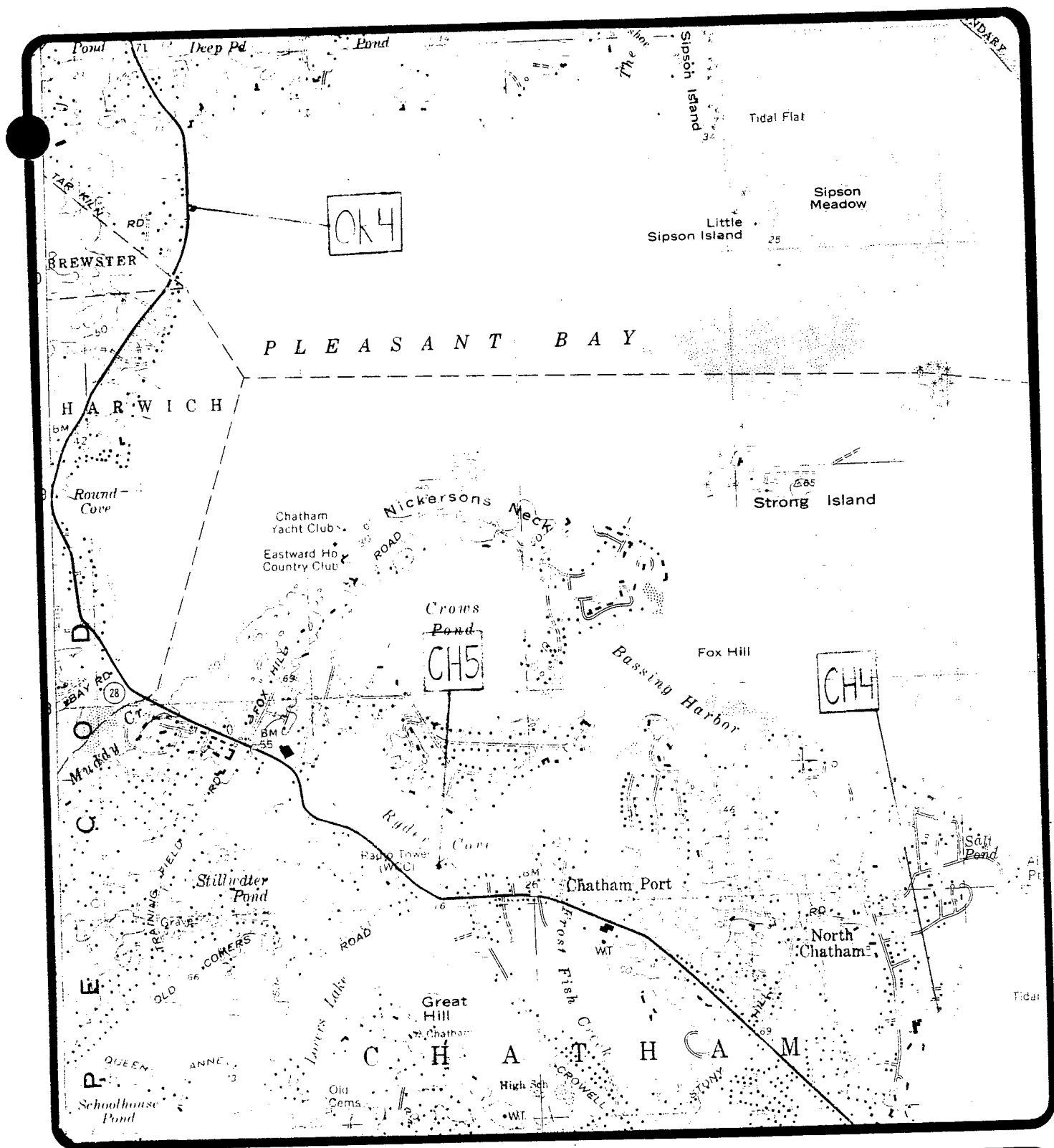


US Army Corps
of Engineers
New England Division

High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Orleans, MA.

□ - 1991 ○ - 1978



High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Chatham, MA.

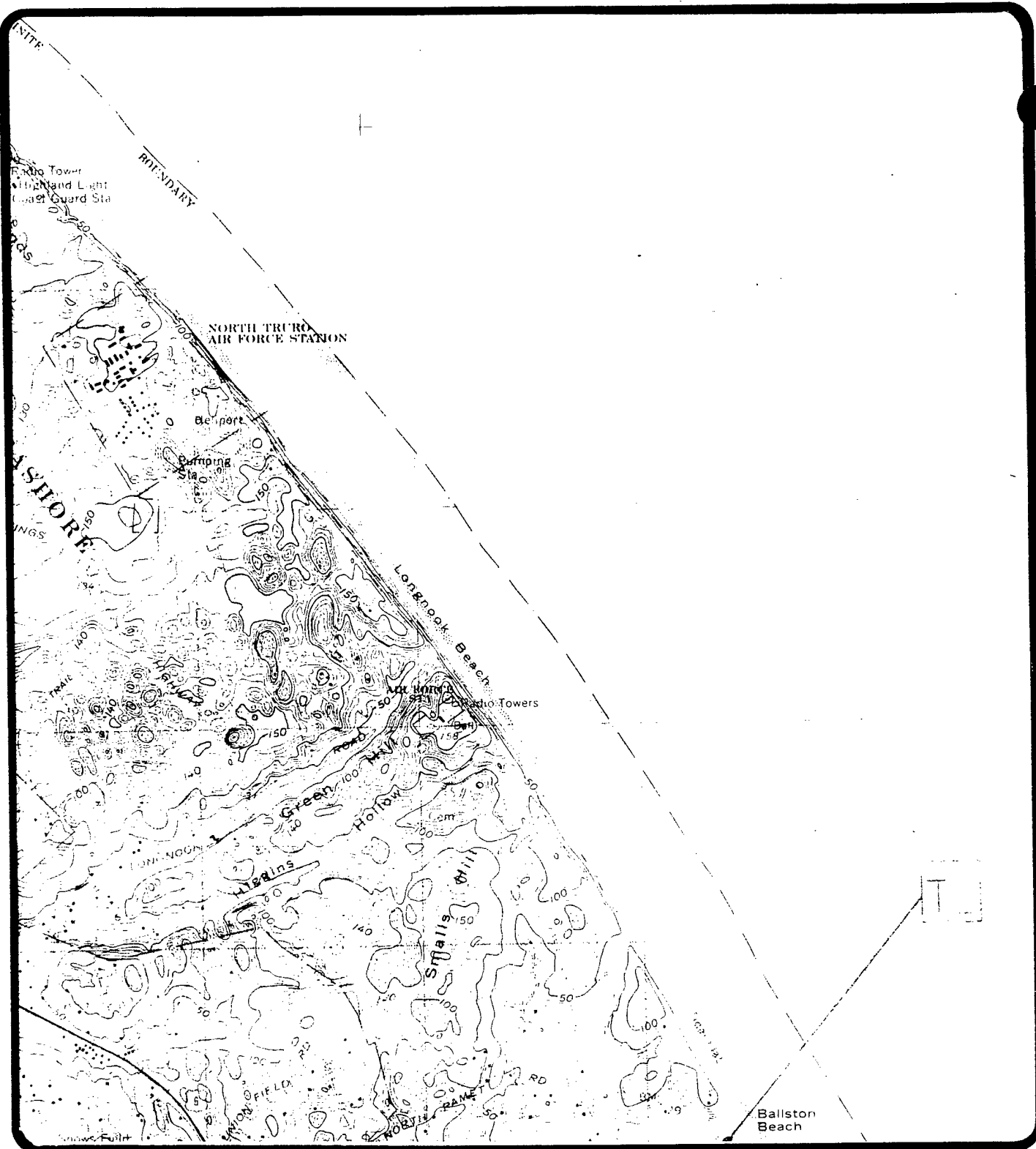
□ - 1991

○ - 1978

New England Division



US Army Corps
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High Water Mark Location Map Halloween Storm, October, 1991

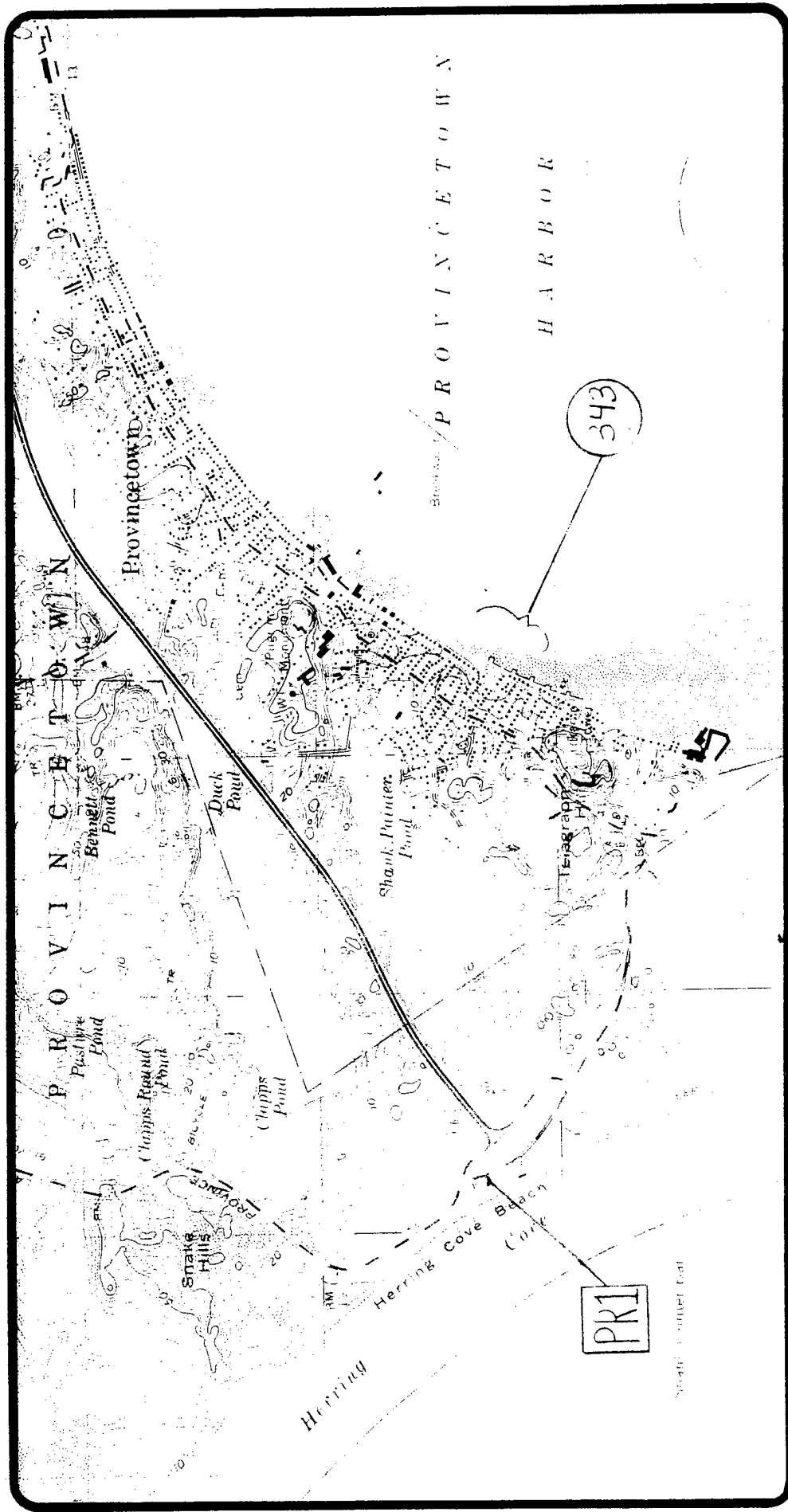
USGS 7.5 Minute Quadrangle - N. Truro, MA.

□ - 1991 ○ - 1978

New England Division



US Army Corps
of Engineers



High Water Mark Location Map
 Halloween Storm, October, 1991 □ - 1991 ○ - 1978

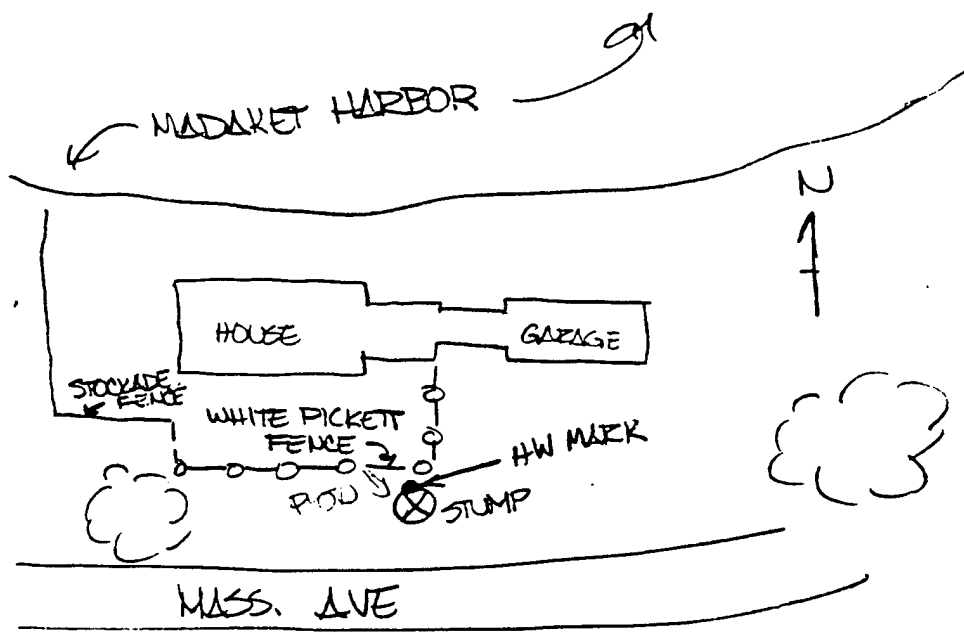
USGS 7.5 Minute Quadrangle - Provincetown, MA.



US Army Corps
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 New England Division

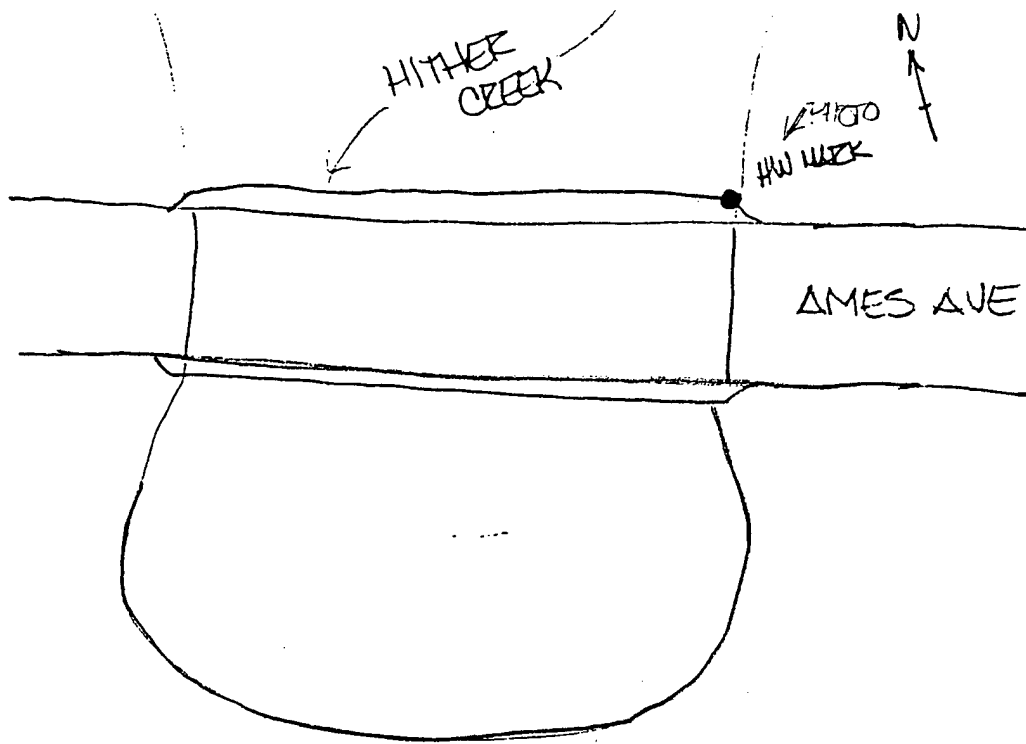
APPENDIX

NANTUCKET, MASSACHUSETTS



1

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

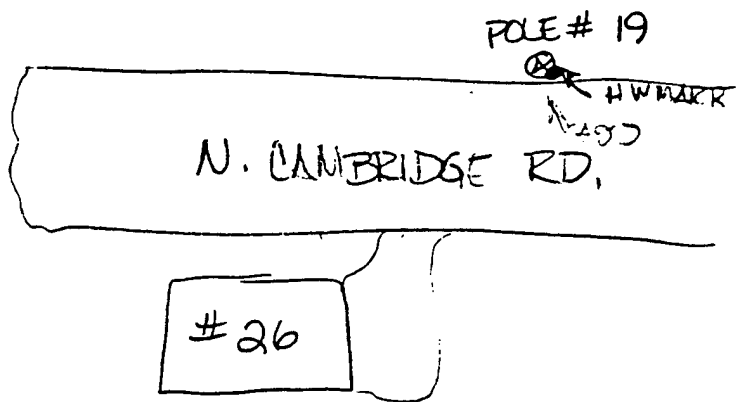


2

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

MARKET
HARPOLE

N
↑



3

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Nantucket Sound		4
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Nantucket	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Bathing Beach Road Pole #5-nail and paint mark on pole

5 November 1991	S. Acone and G. Hanlon
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Debris line in brush	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

Good reliability

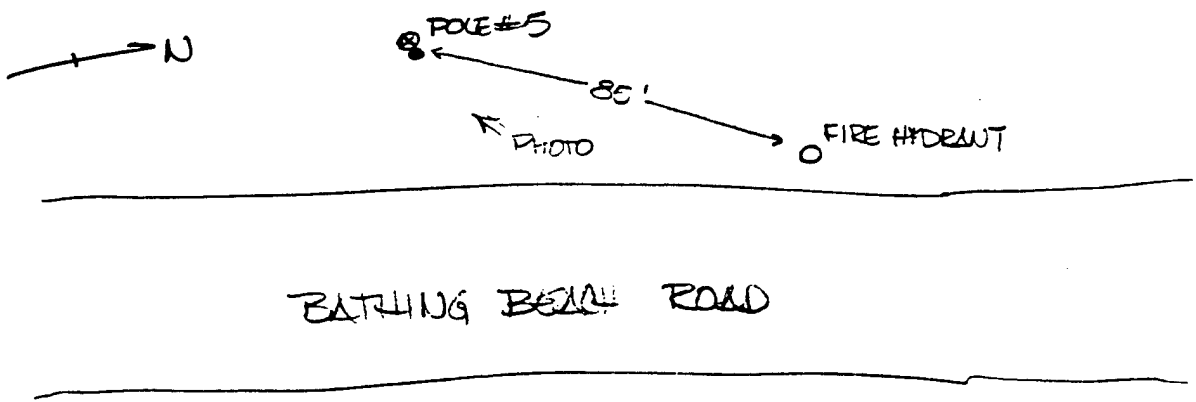
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)



WAMPACKET SOUND

4

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New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Nantucket Harbor		5	
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)	
	Nantucket	MA	
(Tributary of)	(City or Town)	(State)	
Description of high watermark: Hulbert Ave.- pole ⁶ / ₂₂ (with fire box)- nail and paint mark (about 2½ ft up from ground).			
5 November 1991	S. Acone and G. Hanlon		
(Date obtained)	(Obtained by)		
(Name and address of person pointing out high watermark)			
Debris line			
(If not pointed out, how obtained?)	(Date and hour of high watermark)		
Good reliability			
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)	
(Elevation determined by)	(Date)	(Order of levels)	
(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)		

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)

4 NAUTUCKET HARBOR 11

11
X

TEWKS COURT
CHAIN LINK FENCE

#63 HULBERT

⊗ POLE #62

↑ PHOTO

HULBERT

AVENUE

5

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424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Nantucket Harbor		6
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Nantucket	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Intersection of James and Hulbert Avenue.

Nail in sign post for James Street (about 2½' up)

5 November 1991

(Date obtained)

S. Acone and G. Hanlon

(Obtained by)

(Name and address of person pointing out high watermark)

Debris line in brush

(If not pointed out, how obtained?)

(Date and hour of high watermark)

Good reliability

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

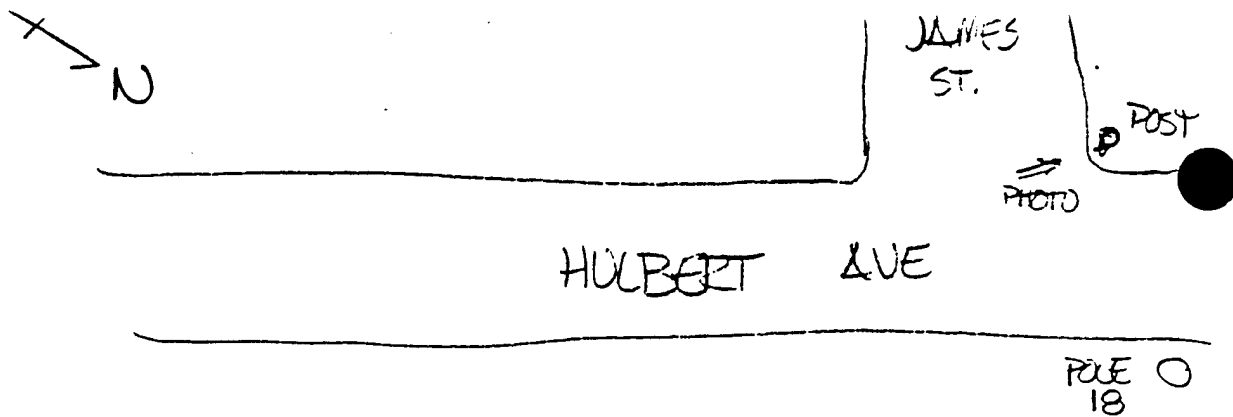
(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

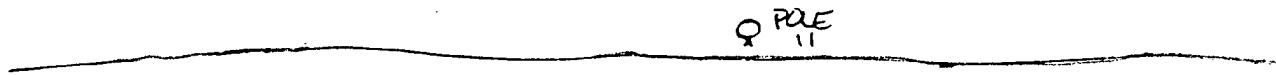
Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)



6

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

7



♀ POLE
11

HULBERT AVE

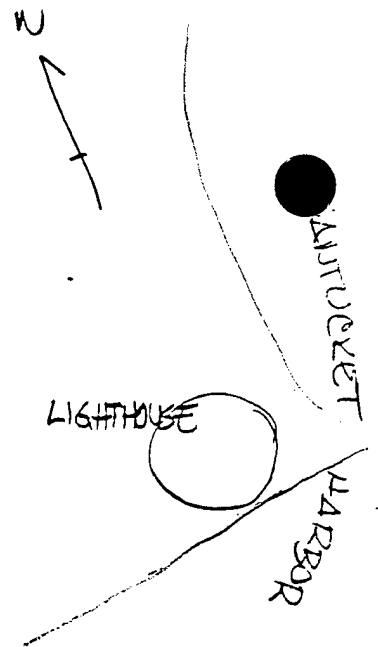
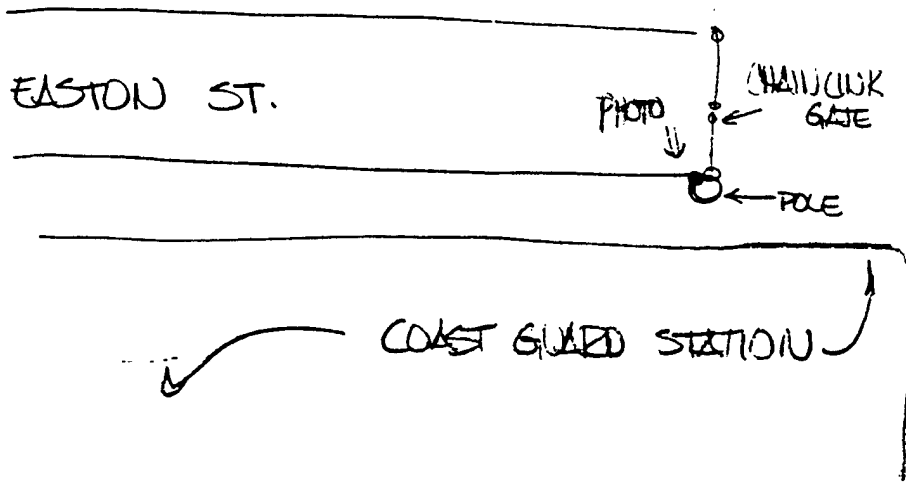
PHOTO

WILLARD
AVE

32 HULBERT
AVE

7

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER



8

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New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Nantucket Harbor 9

(Name of River, Bay or Harbor) (Miles from Mouth) (Watermark No.)

Nantucket MA

(Tributary of) (City or Town) (State)

Description of high watermark: Intersection of Easton and Hulbert in rotary-
Pole #22. Paint and nail about 2½' up.

6 November 1991

(Date obtained)

S. Acone and G. Hanlon

(Obtained by)

(Name and address of person pointing out high watermark)

Debris line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

Excellent reliability

(Elev. of high watermark) (Datum)

(Benchmark referred to) (Datum)

(Elevation of high watermark
above water surface)

(Date & Hour) (Class. of watermark)

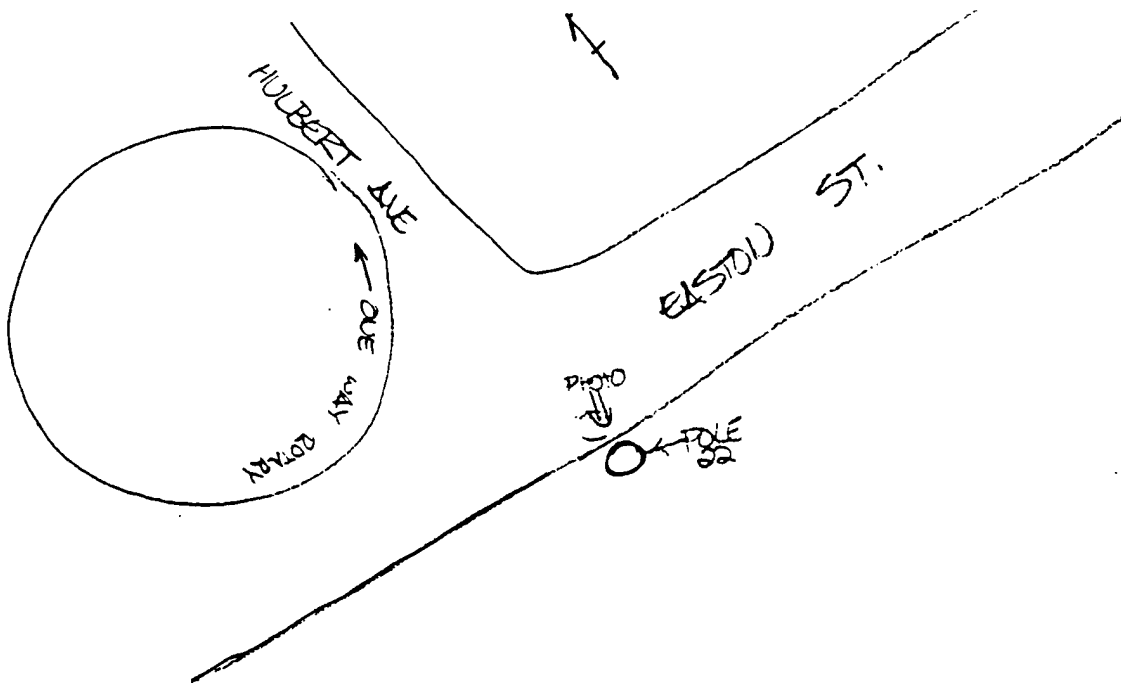
(Elevation determined by)

(Date) (Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)



9

WABTUP/19
HAREBO

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424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Nantucket Harbor		10
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Nantucket	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Street sign post at intersection of Walsh St.
and East Lincoln Avenue. Nail in sign post (about 4' up)

6 November 1991

(Date obtained)

S. Acone and G. Hanlon

(Obtained by)

Caretaker pointed out debris lines.

(Name and address of person pointing out high watermark)

Debris line

(If not pointed out, how obtained?)

6:00 PM Wed. 30 November 1991

(Date and hour of high watermark)

Good reliability

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

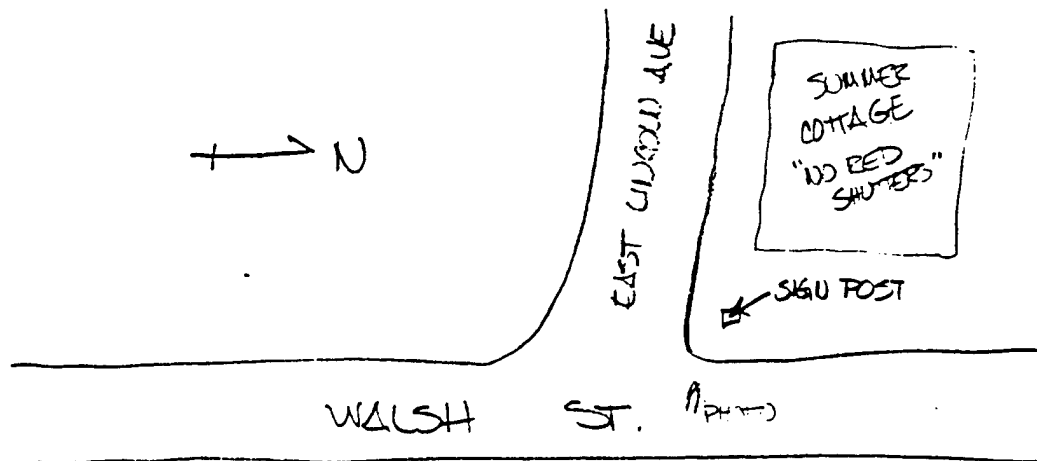
(Date)

(Order of levels)

(Nearest dam upstream or downstream)

(Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)



10

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424 Trapelo Road
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Nantucket Harbor</u> (Name of River, Bay or Harbor)	<u></u> (Miles from Mouth)	<u>11</u> (Watermark No.)
<u></u> (Tributary of)	<u>Nantucket</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: North Beach Street at Stuarts way-pole # 1A -
144
nail and paint in pole about 2' up.

<u>6 November 1991</u> (Date obtained)	<u>S. Acone and G. Hanlon</u> (Obtained by)
---	--

(Name and address of person pointing out high watermark)

<u>Debris line</u> (If not pointed out, how obtained?)	<u></u> (Date and hour of high watermark)
---	--

Fair reliability

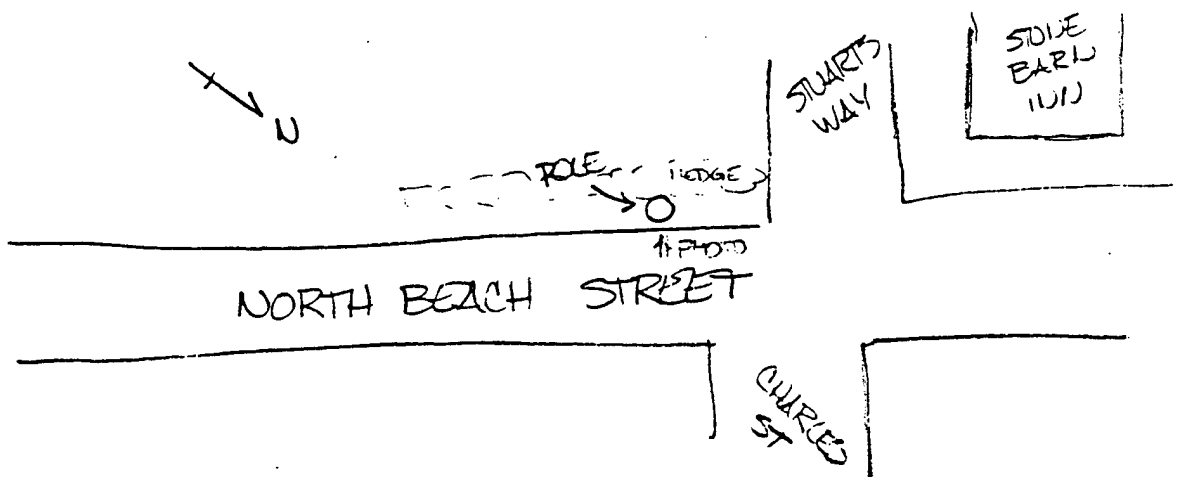
<u></u> (Elev. of high watermark)	<u></u> (Datum)	<u></u> (Benchmark referred to)	<u></u> (Datum)
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<u></u> (Elevation of high watermark above water surface)	<u></u> (Date & Hour)	<u></u> (Class. of watermark)
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<u></u> (Elevation determined by)	<u></u> (Date)	<u></u> (Order of levels)
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<u></u> (Nearest dam upstream or downstream)	<u></u> (Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)



11

N



HARBOR
HOUSE

SOUTH BEACH STREET
↓ PHOTO

⊗
POLE

"Chanticleer
to go"

HARBOR VIEW
ROAD

MAINTUCKET HARBOR

12

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New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Nantucket Harbor		B
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Nantucket	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: USCGS Bench mark #23 - 1934 - Chief Day indicated
water just reached the station, the elevation as the survey disk.

6 November 1991
(Date obtained)

S. Acone and G. Hanlon
(Obtained by)

Deputy Chief Day - Nantucket Police
(Name and address of person pointing out high watermark)

(If not pointed out, how obtained?)
Fair reliability

(Date and hour of high watermark)

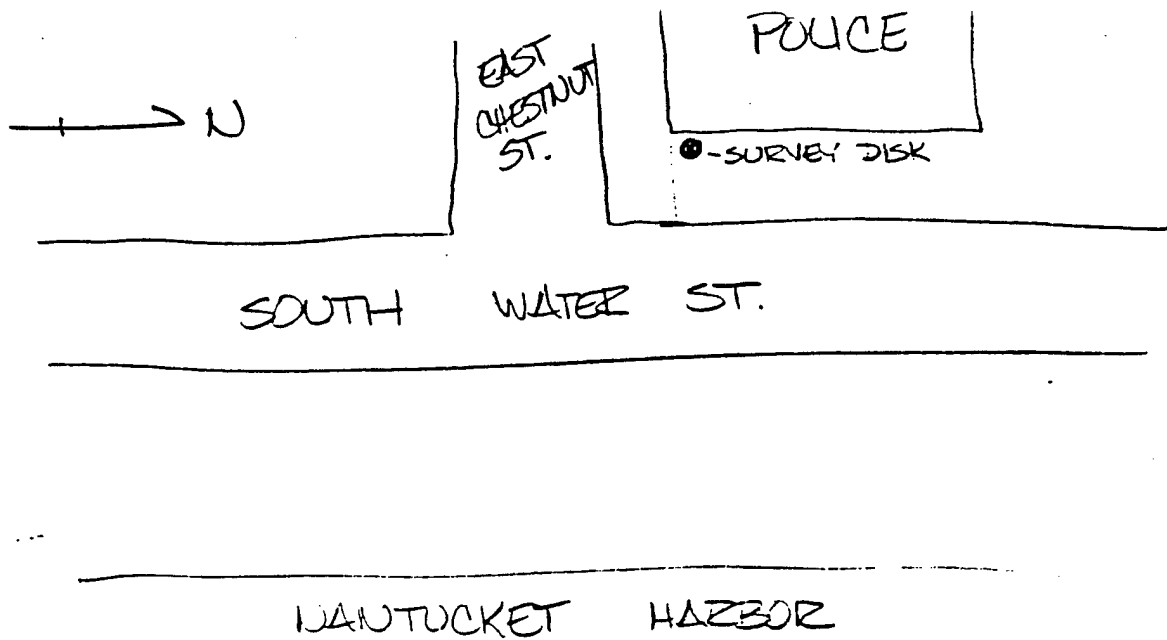
(Elev. of high watermark) (Datum) (Benchmark referred to) (Datum)

(Elevation of high watermark above water surface) (Date & Hour) (Class. of watermark)

(Elevation determined by) (Date) (Order of levels)

(Nearest dam upstream or downstream) (Latitude and longitude of watermark)

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)



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Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Nantucket Harbor		14
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Nantucket	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Washington at Commercial Wharf-nail about 18"up
in No Parking sign at corner near the Nantucket Power Plant.

6 November 1991	S. Acone and G. Hanlon
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Debris line	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

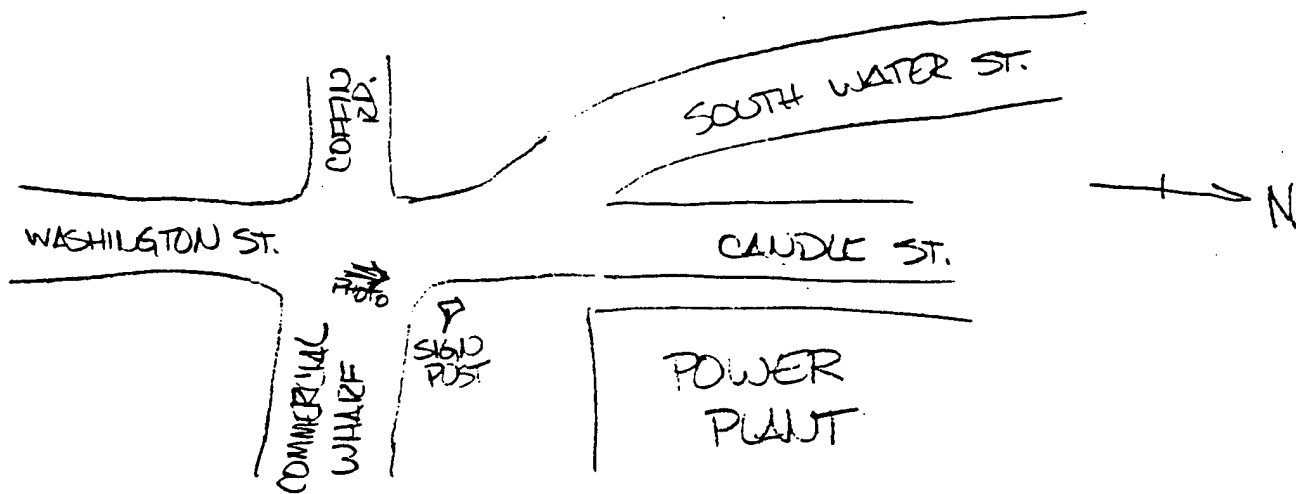
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)



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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Nantucket Harbor</u> (Name of River, Bay or Harbor)	<u></u> (Miles from Mouth)	<u>15</u> (Watermark No.)
<u></u> (Tributary of)	<u>Nantucket</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: Intersection of Washington Street and Francis
Street Pole #16S-nail and paint on pole about 3½ft. up.

<u>6 November 1991</u> (Date obtained)	<u>S. Acone and G. Hanlon</u> (Obtained by)
---	--

(Name and address of person pointing out high watermark)

<u></u> (If not pointed out, how obtained?)	<u></u> (Date and hour of high watermark)
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<u></u> (Elev. of high watermark)	<u></u> (Datum)	<u></u> (Benchmark referred to)	<u></u> (Datum)
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<u></u> (Elevation of high watermark above water surface)	<u></u> (Date & Hour)	<u></u> (Class. of watermark)
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<u></u> (Elevation determined by)	<u></u> (Date)	<u></u> (Order of levels)
--------------------------------------	-------------------	------------------------------

<u></u> (Nearest dam upstream or downstream)	<u></u> (Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

NAUTUCKET HARBOR

N
A

FOLE
DHOID

WASHINGTON ST.

ST.

15

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Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Nantucket Harbor		16
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Nantucket	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Washington Street extension-pole # 19-nail and
paint (about 2'up).

6 November 1991	S. Acone and G. Hanlon
(Date obtained)	(Obtained by)

Drew Deeley-Island Marine Service
(Name and address of person pointing out high watermark)

	6:00 pm-Wednesday November 30 1991
(If not pointed out, how obtained?)	(Date and hour of high watermark)

(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

← NAUTUCKET HARBOR —

N ←

PHOTO → ⊗ POLE

ISLAND
MARINE
SERVICE

WASHINGTON ST. EXTENSION

16

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New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Nantucket Harbor</u> (Name of River, Bay or Harbor)	<u></u> (Miles from Mouth)	<u>17</u> (Watermark No.)
<u></u> (Tributary of)	<u>Wauwinet, Nantucket</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: Wauwinet Road-pole 18-paint and nail at ground level

<u>6 November 1991</u> (Date obtained)	<u>S. Acone and G. Hanlon</u> (Obtained by)
---	--

(Name and address of person pointing out high watermark)

<u>Debris line</u> (If not pointed out, how obtained?)	<u></u> (Date and hour of high watermark)
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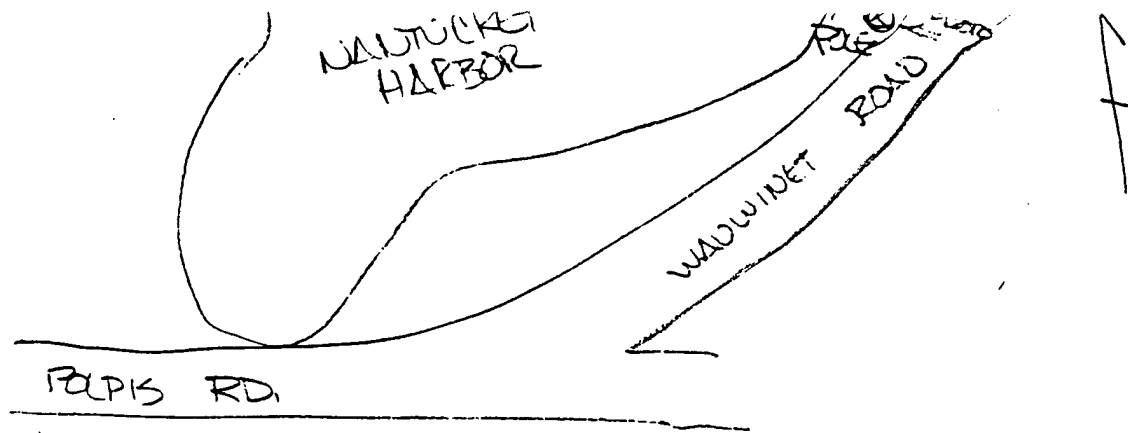
<u></u> (Elev. of high watermark)	<u></u> (Datum)	<u></u> (Benchmark referred to)	<u></u> (Datum)
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<u></u> (Elevation of high watermark above water surface)	<u></u> (Date & Hour)	<u></u> (Class. of watermark)
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<u></u> (Elevation determined by)	<u></u> (Date)	<u></u> (Order of levels)
--------------------------------------	-------------------	------------------------------

<u></u> (Nearest dam upstream or downstream)	<u></u> (Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)



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New England Division, Corps of Engineers
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HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Nantucket Harbor		18
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Shawkemo, Nantucket	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Polpis Road - pole #69 - paint and nail
approximately 2' up.

6 November 1991	S. Acone and G. Hanlon
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)
Debris in brush
(If not pointed out, how obtained?) (Date and hour of high watermark)

Fair reliability

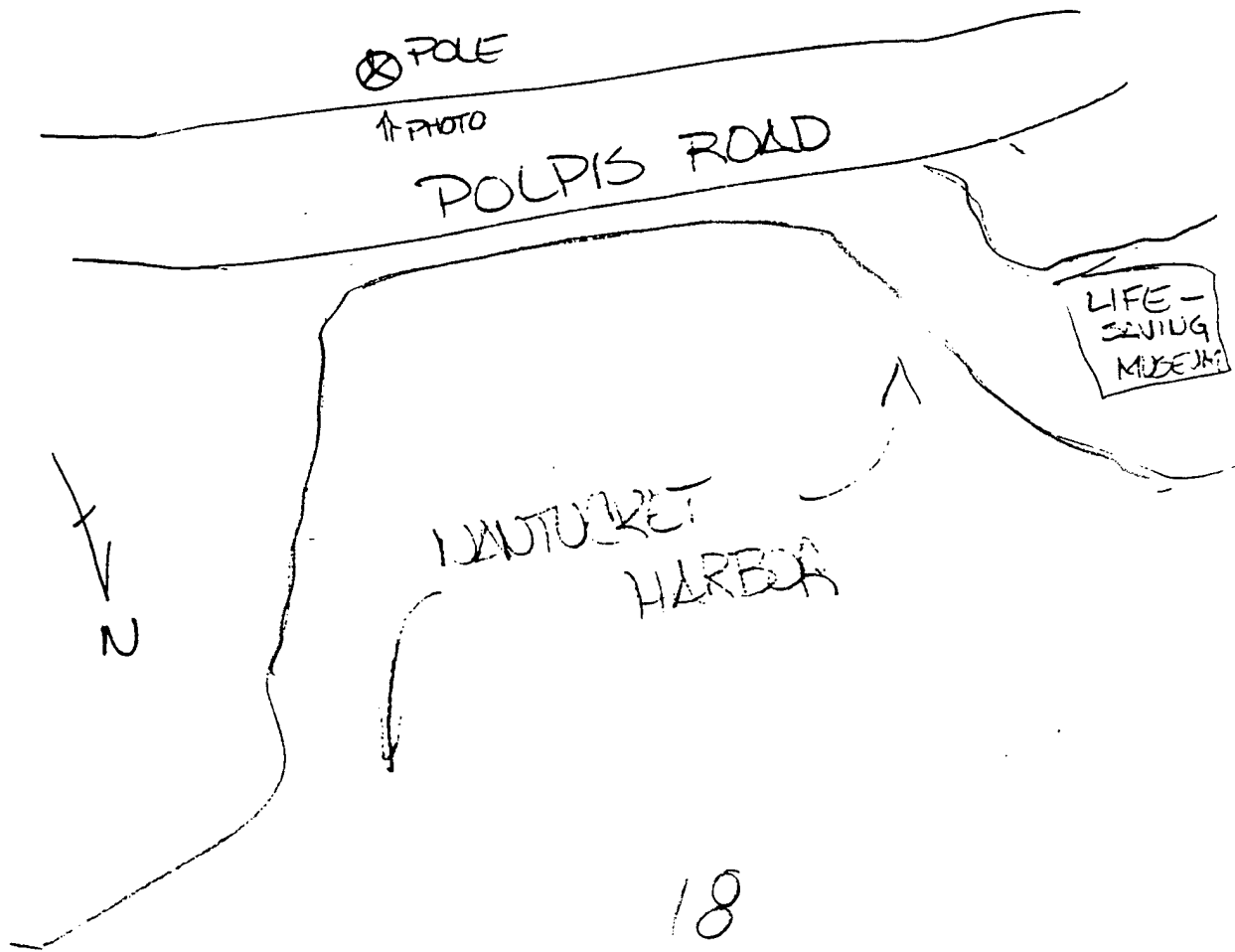
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)



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New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

<u>Nantucket Harbor</u> (Name of River, Bay or Harbor)	<u></u> (Miles from Mouth)	<u>19</u> (Watermark No.)
<u>Atlantic Ocean</u> (Tributary of)	<u>Squam, Nantucket</u> (City or Town)	<u>MA</u> (State)

Description of high watermark: Pond was flooded when Barrier Beach was
overtopped. Squam Road - unmarked pole at Squam Pond just past home "whales
End" - nail at base of pole near telephone box #25.

<u>6 November 1991</u> (Date obtained)	<u>S. Acone and G. Hanlon</u> (Obtained by)
---	--

(Name and address of person pointing out high watermark)

<u>Debris line</u> (If not pointed out, how obtained?)	<u></u> (Date and hour of high watermark)
<u>Low reliability</u>	

<u></u> (Elev. of high watermark)	<u></u> (Datum)	<u></u> (Benchmark referred to)	<u></u> (Datum)
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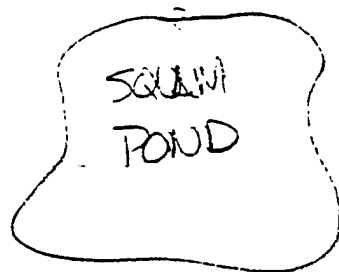
<u></u> (Elevation of high watermark above water surface)	<u></u> (Date & Hour)	<u></u> (Class. of watermark)
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<u></u> (Elevation determined by)	<u></u> (Date)	<u></u> (Order of levels)
--------------------------------------	-------------------	------------------------------

<u></u> (Nearest dam upstream or downstream)	<u></u> (Latitude and longitude of watermark)
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Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)

N ↗



WHALES
END

POLE

SQUAM ROAD

19

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424 Trapelo Road
Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Sesachacha Pond		20
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
Atlantic Ocean	Quidnet, Nantucket	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Pond was flooded when Barrier Beach was over-topped. Quidnet Road - pole #8 - nail and paint and stake at ground elevation.

6 November 1991	S. Acone and G. Hanlon
(Date obtained)	(Obtained by)

(Name and address of person pointing out high watermark)

Debris line	
(If not pointed out, how obtained?)	(Date and hour of high watermark)

Low reliability

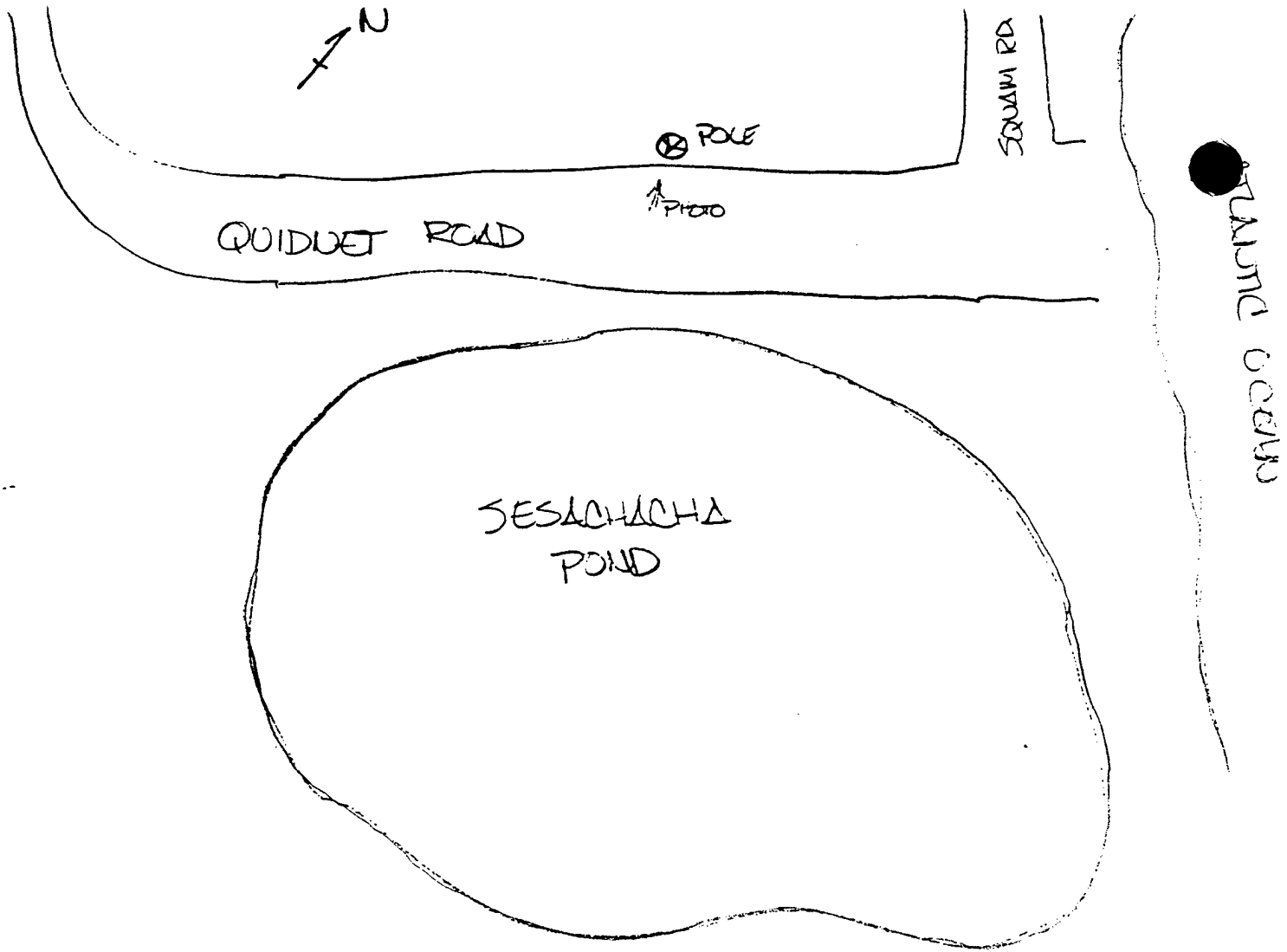
(Elev. of high watermark)	(Datum)	(Benchmark referred to)	(Datum)
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(Elevation of high watermark above water surface)	(Date & Hour)	(Class. of watermark)
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(Elevation determined by)	(Date)	(Order of levels)
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(Nearest dam upstream or downstream)	(Latitude and longitude of Watermark)
--------------------------------------	---------------------------------------

Remarks - (Failure of dams upstream, elevation and time of other points on hydrograph, factors that might affect high watermark, elevation of previous flood heights at same point, etc.)



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Waltham, Massachusetts 02154

HIGH WATERMARK - OCTOBER 1991 NORTHEASTER

Atlantic Ocean		21
(Name of River, Bay or Harbor)	(Miles from Mouth)	(Watermark No.)
	Siaconset, Nantucket	MA
(Tributary of)	(City or Town)	(State)

Description of high watermark: Codfish Park Road - pole #7- paint and nail
(about 6" up).

6 November 1991

(Date obtained)

S. Acone and G. Hanlon

(Obtained by)

(Name and address of person pointing out high watermark)

Debris line

(If not pointed out, how obtained?)

(Date and hour of high watermark)

Medium reliability

(Elev. of high watermark)

(Datum)

(Benchmark referred to)

(Datum)

(Elevation of high watermark
above water surface)

(Date & Hour)

(Class. of watermark)

(Elevation determined by)

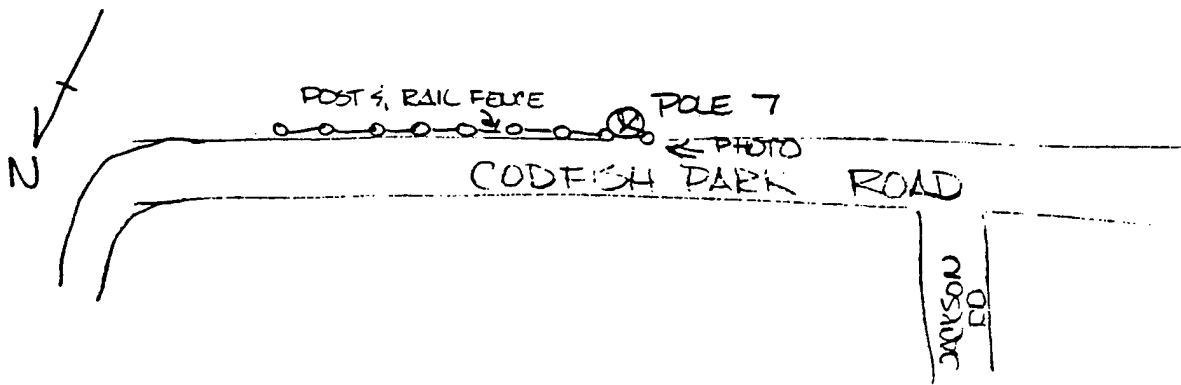
(Date)

(Order of levels)

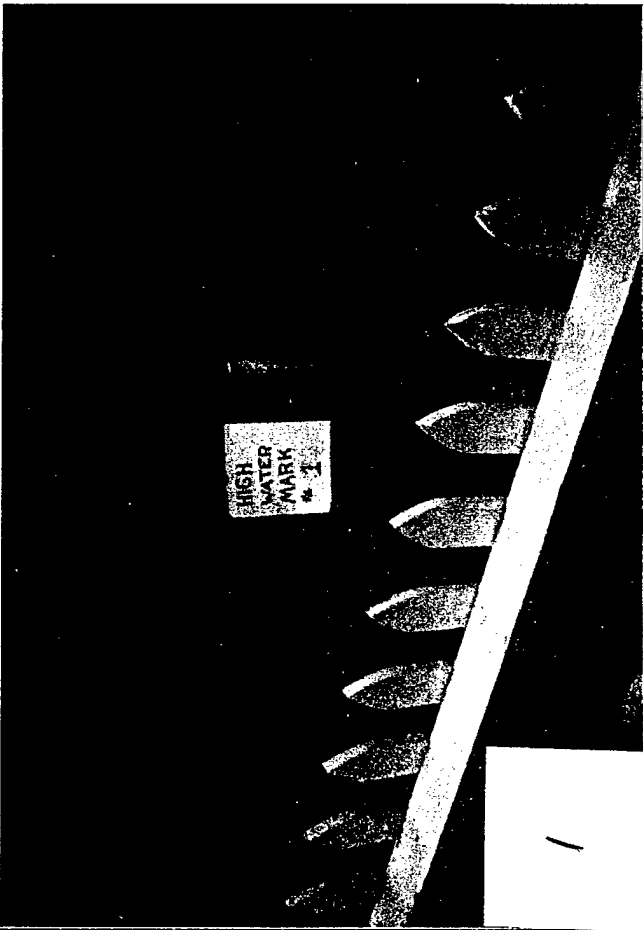
(Nearest dam upstream or downstream)

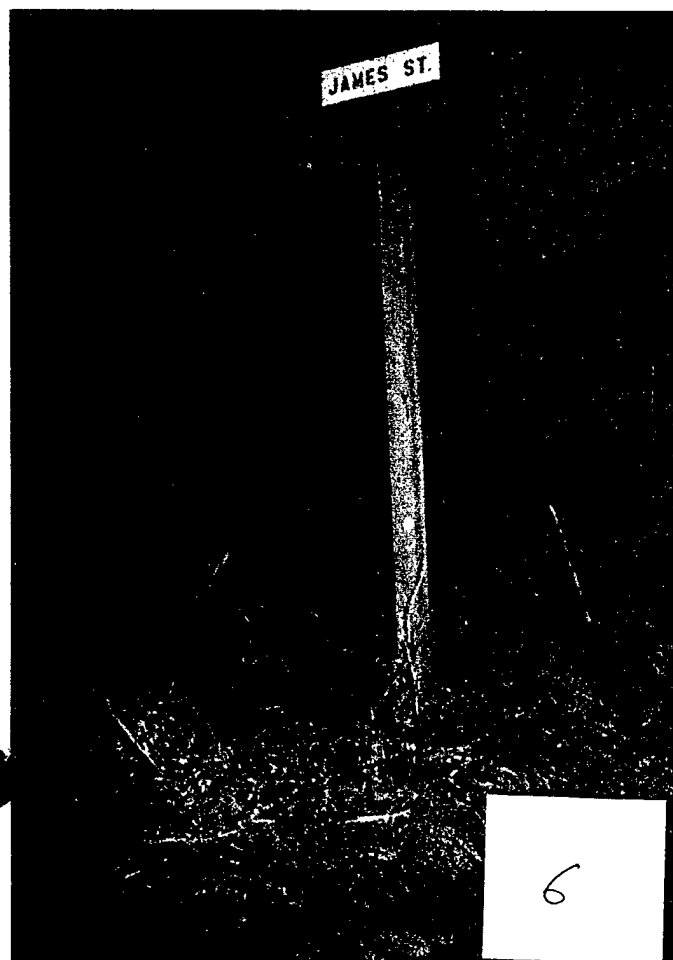
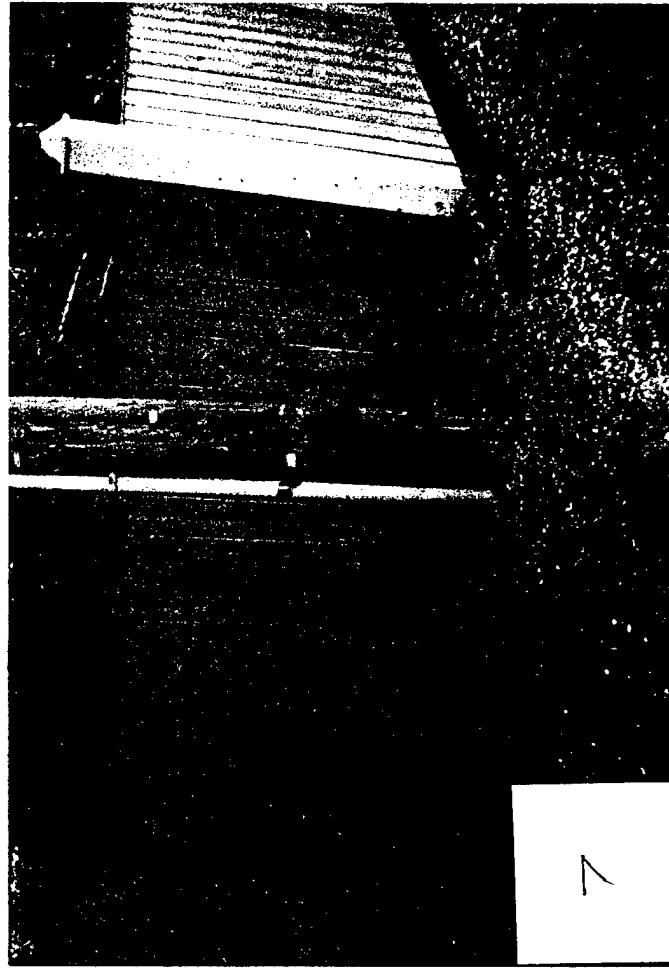
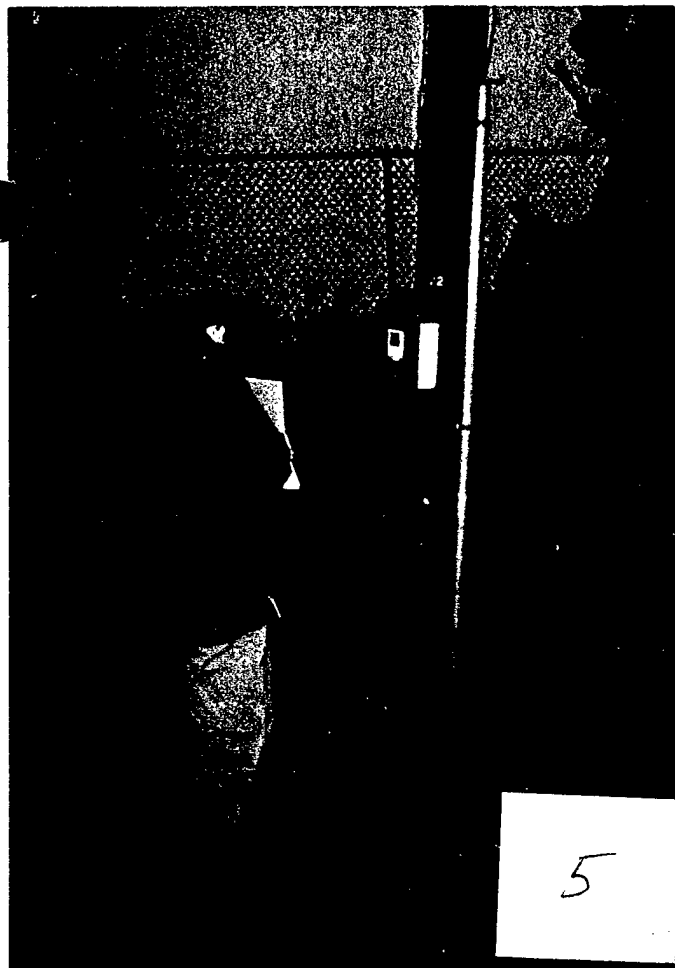
(Latitude and longitude of watermark)

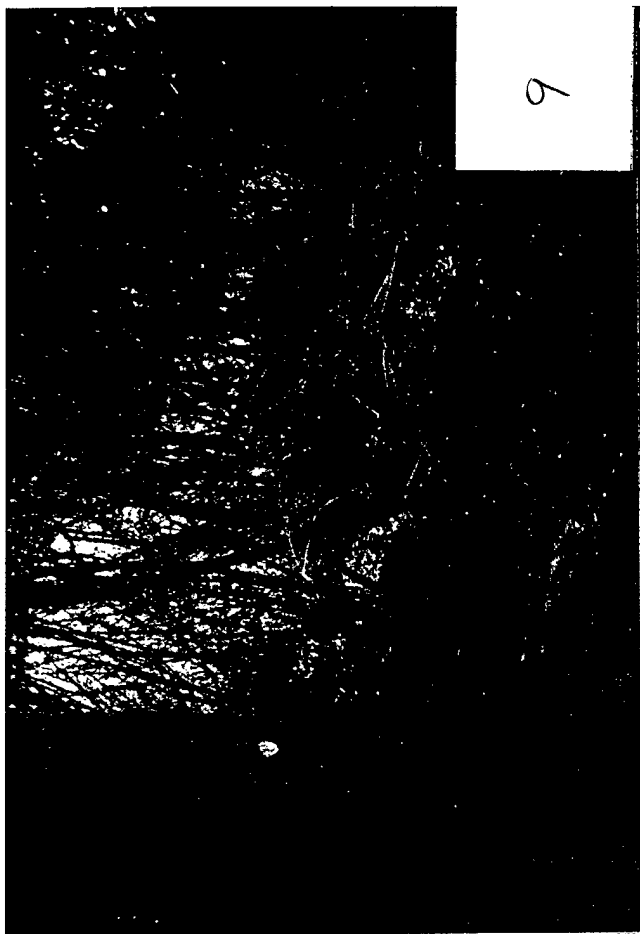
Remarks - (Failure of dams upstream, elevation and time of other points on
hydrograph, factors that might affect high watermark, elevation of
previous flood heights at same point, etc.)



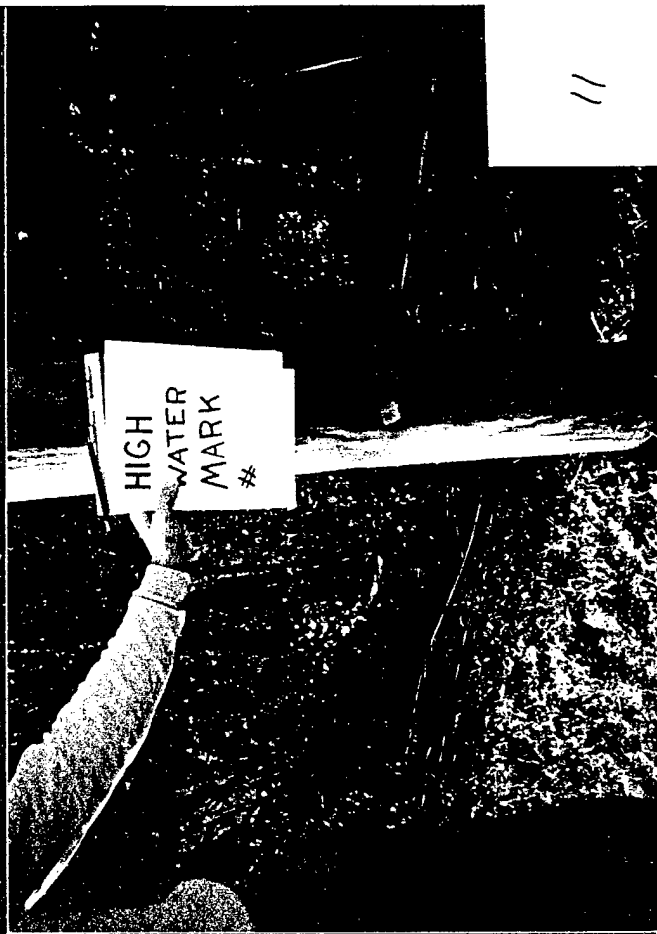
21







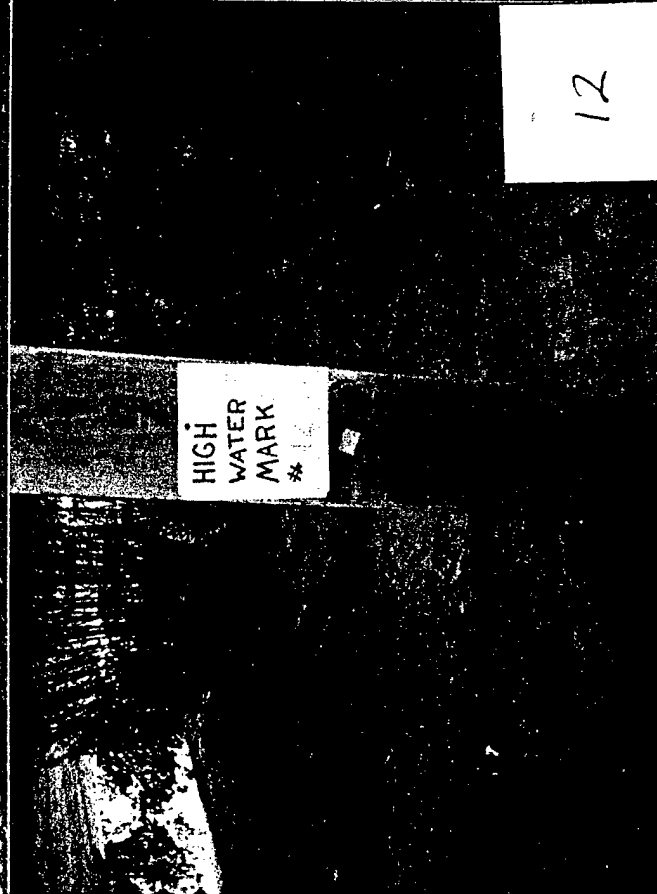
9



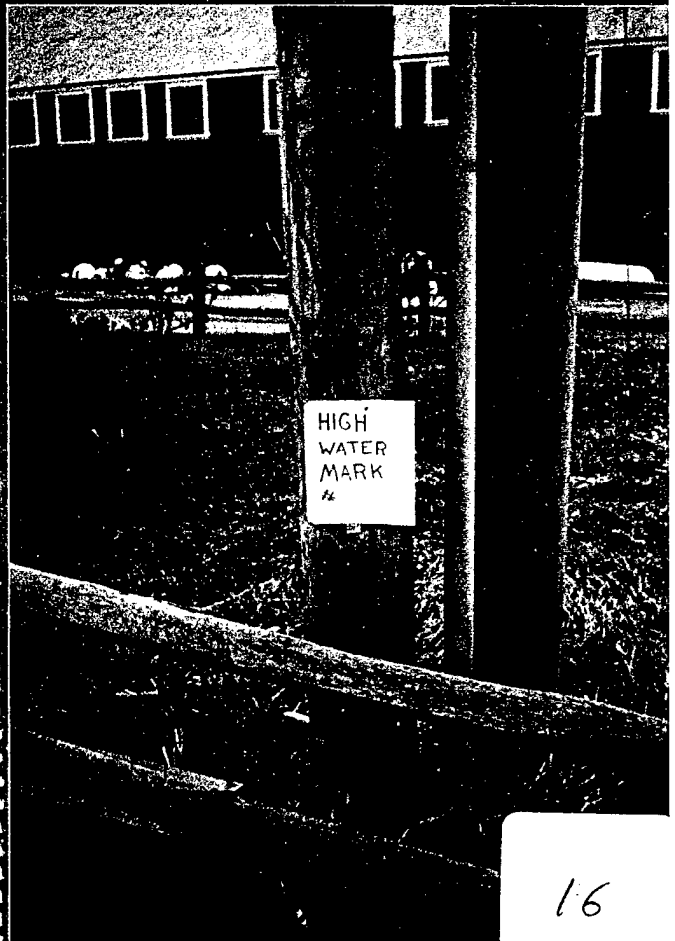
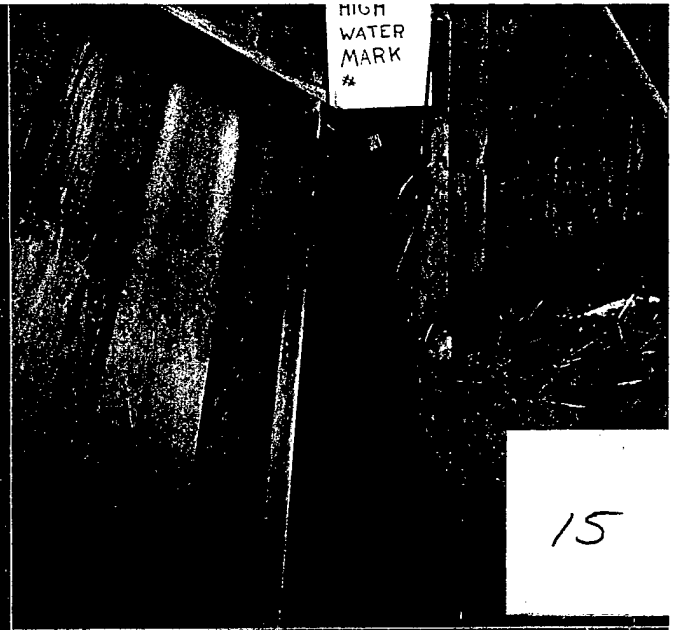
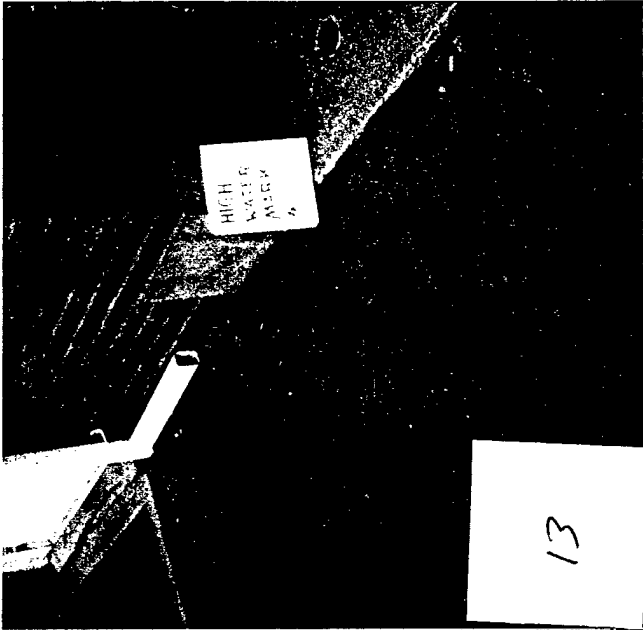
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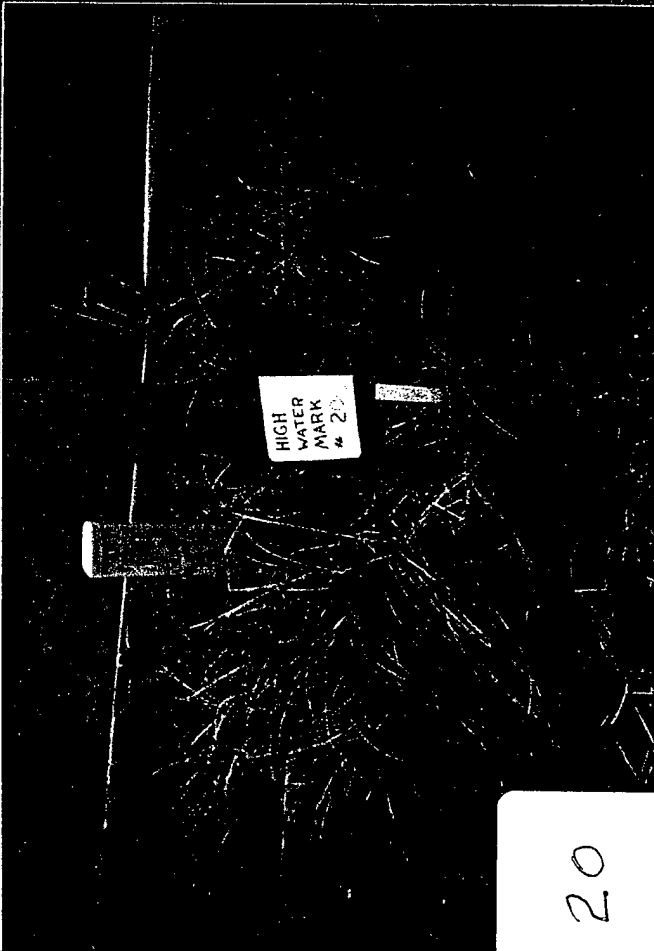
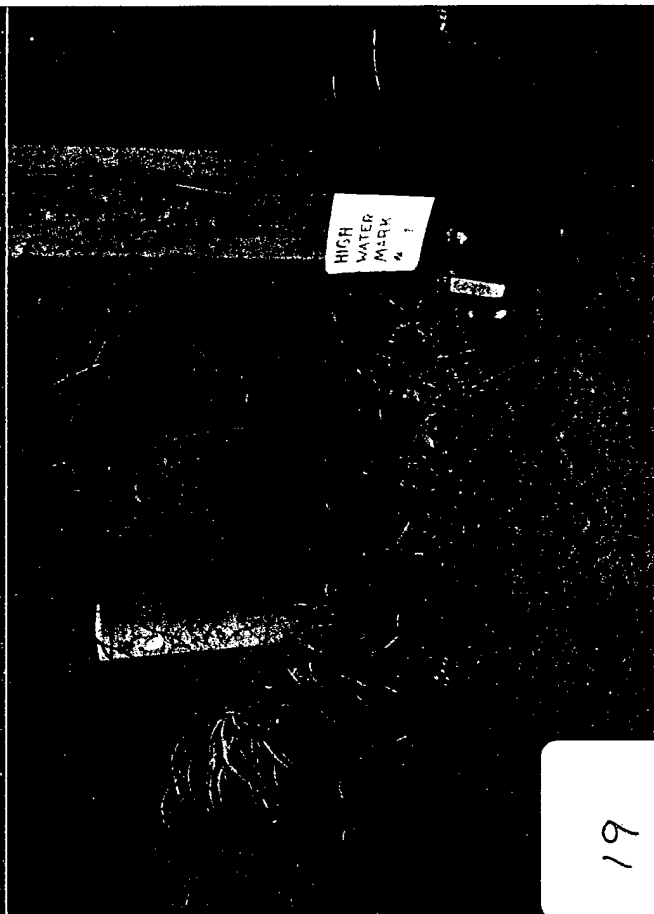
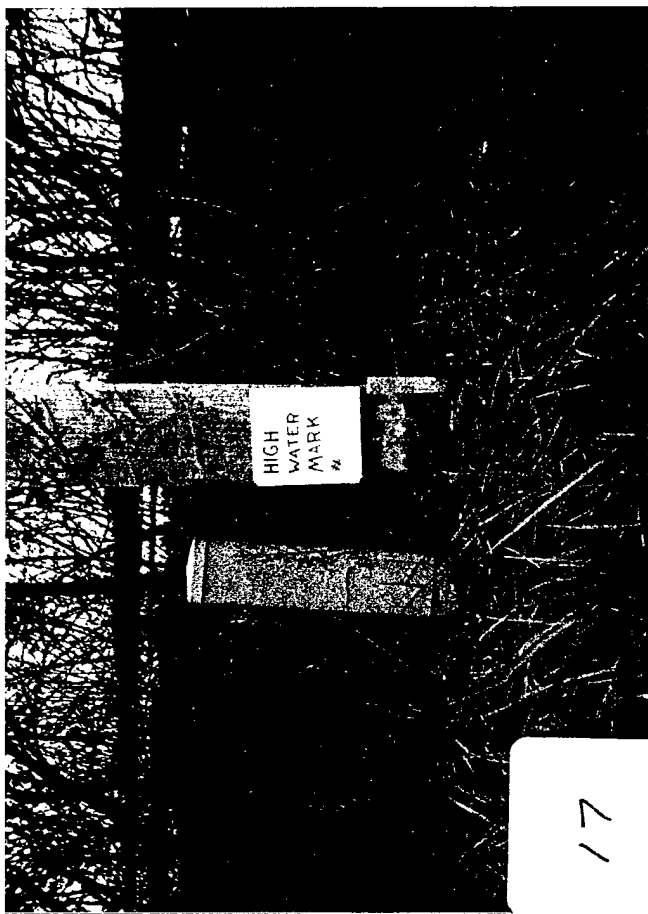


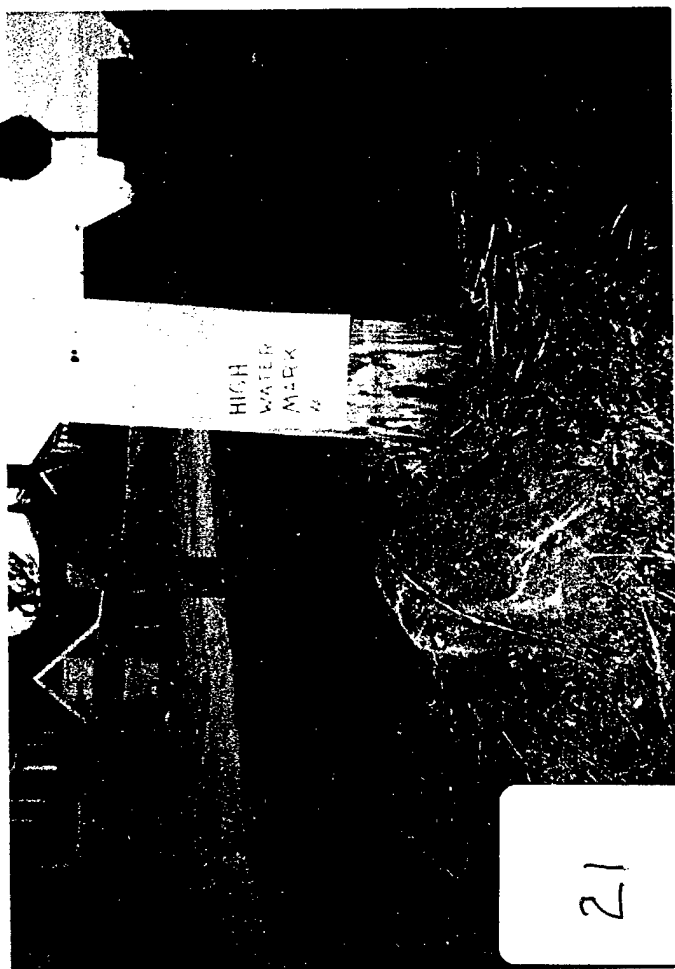
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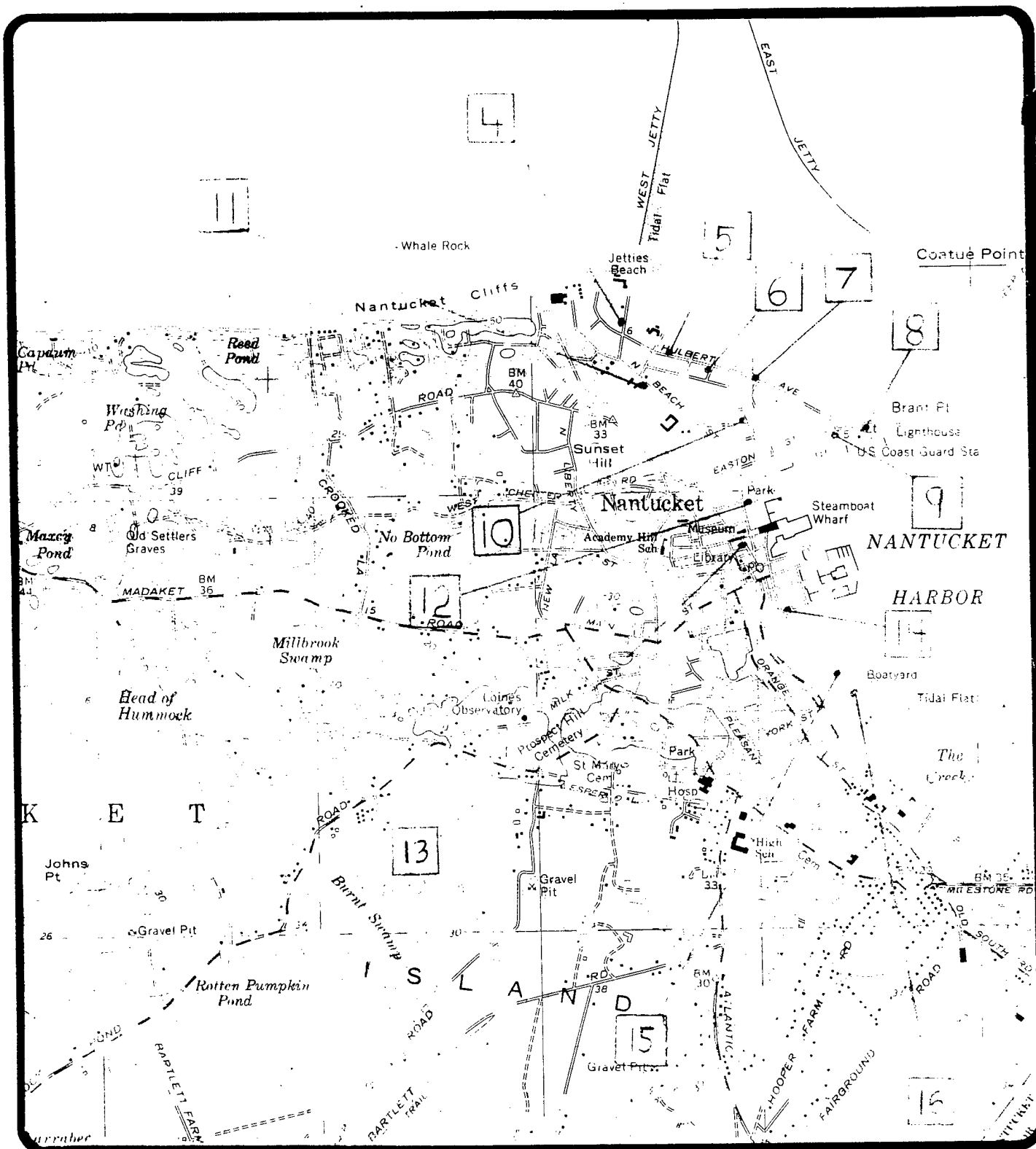


12









High Water Mark Location Map Halloween Storm, October, 1991

USGS 7.5 Minute Quadrangle - Nantucket, MA.

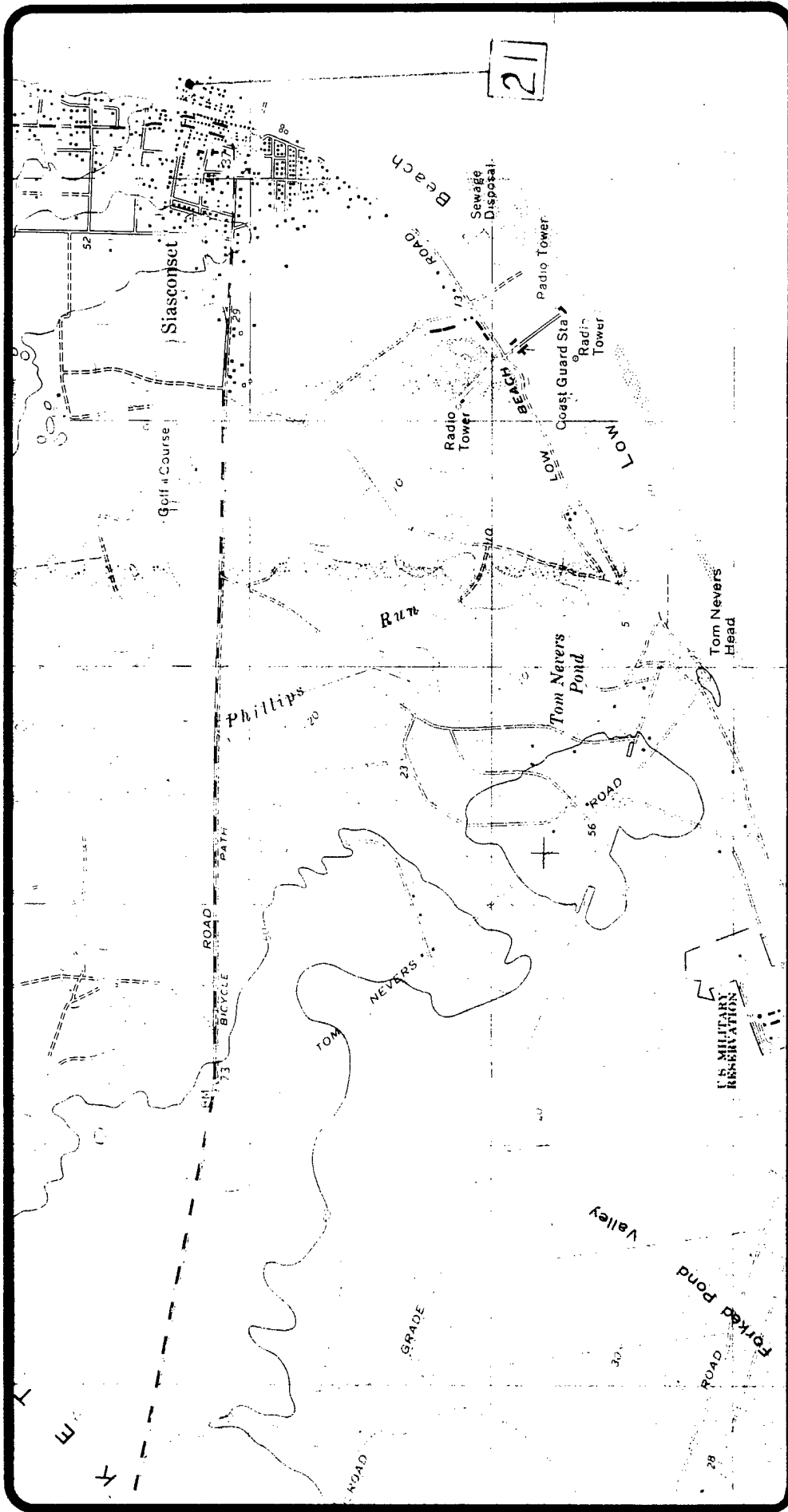
□ - 1991

○ - 1978

New England Division



US Army Corps
of Engineers



US Army Corps
of Engineers
New England Division

High Water Mark Location Map Halloween Storm, October, 1991 ○ - 1978

□ - 1991 ○ - 1978

USGS 7.5 Minute Quadrangle - Siasconset, MA.